

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1241531  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well  Re-Entry  Workover
- Oil  WSW  SWD  SIOW
- Gas  D&A  ENHR  SIGW
- OG  GSW  Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening  Re-perf.  Conv. to ENHR  Conv. to SWD
- Plug Back  Conv. to GSW  Conv. to Producer
- Commingled Permit #: \_\_\_\_\_
- Dual Completion Permit #: \_\_\_\_\_
- SWD Permit #: \_\_\_\_\_
- ENHR Permit #: \_\_\_\_\_
- GSW Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1241531

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size: _____ Set At: _____ Packer At: _____	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR. _____	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____					
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity	

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	R & B 1-27
Doc ID	1241531

All Electric Logs Run

DIL
DUCP
MEL
BHCS





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co. Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Wes Hansen

**R&B #1-27**

**27-17s-36w Wichita,KS**

Start Date: 2015.01.22 @ 07:12:00

End Date: 2015.01.22 @ 17:09:30

Job Ticket #: 61512                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.01.29 @ 08:35:39



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
250 N Water STE 300  
Wichita KS 67202  
ATTN: Wes Hansen

**27-17s-36w Wichita, KS**

**R&B #1-27**

Job Ticket: 61512

**DST#: 1**

Test Start: 2015.01.22 @ 07:12:00

## GENERAL INFORMATION:

Formation: **LKC E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:52:30

Time Test Ended: 17:09:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Justin Harris

Unit No: 58

**Interval: 4116.00 ft (KB) To 4140.00 ft (KB) (TVD)**

Reference Elevations: 3269.00 ft (KB)

Total Depth: 4140.00 ft (KB) (TVD)

3258.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

**Serial #: 6625 Outside**

Press@RunDepth: 486.24 psig @ 4136.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.01.22

End Date: 2015.01.22

Last Calib.: 2015.01.22

Start Time: 07:12:01

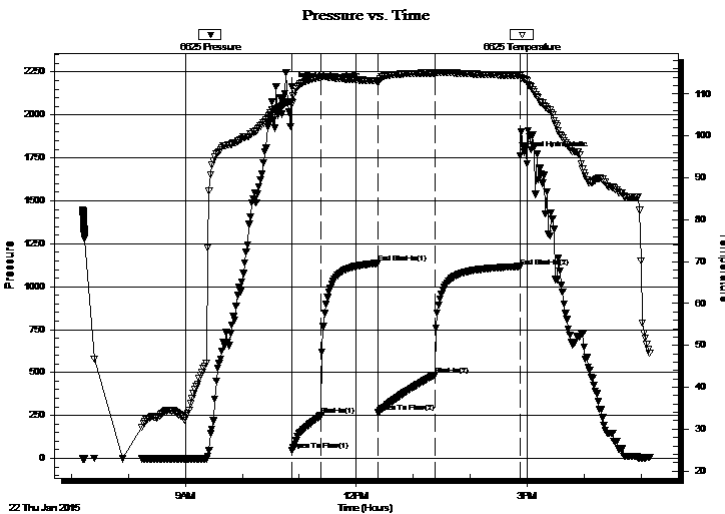
End Time: 17:09:30

Time On Btm: 2015.01.22 @ 10:52:00

Time Off Btm: 2015.01.22 @ 14:52:30

TEST COMMENT: 30: B.O.B in 8 mins.  
60: No Return.  
60: B.O.B in 8 mins.  
90: No Return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2164.43	108.26	Initial Hydro-static
1	47.73	107.85	Open To Flow (1)
31	253.13	114.06	Shut-In(1)
91	1136.39	113.14	End Shut-In(1)
91	268.60	112.78	Open To Flow (2)
151	486.24	115.06	Shut-In(2)
240	1117.75	114.39	End Shut-In(2)
241	1762.08	114.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
282.00	mcw 20m 80w	1.44
678.00	mcw 10m 90w	9.51

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
250 N Water STE 300  
Wichita KS 67202  
ATTN: Wes Hansen

**27-17s-36w Wichita,KS**  
**R&B #1-27**  
Job Ticket: 61512      **DST#: 1**  
Test Start: 2015.01.22 @ 07:12:00

**Tool Information**

Drill Pipe:	Length: 3835.00 ft	Diameter: 3.80 inches	Volume: 53.79 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4116.00 ft			Final 86000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	52.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4089.00	
Shut In Tool	5.00			4094.00	
Hydraulic tool	5.00			4099.00	
Jars	5.00			4104.00	
Safety Joint	3.00			4107.00	
Packer	5.00			4112.00	28.00      Bottom Of Top Packer
Packer	4.00			4116.00	
Stubb	1.00			4117.00	
Perforations	19.00			4136.00	
Recorder	0.00	6625	Outside	4136.00	
Recorder	0.00	8319	Inside	4136.00	
Bullnose	4.00			4140.00	24.00      Bottom Packers & Anchor

**Total Tool Length: 52.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co. Inc

**27-17s-36w Wichita,KS**

250 N Water STE 300  
Wichita KS 67202

**R&B #1-27**

Job Ticket: 61512

**DST#: 1**

ATTN: Wes Hansen

Test Start: 2015.01.22 @ 07:12:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

20000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6500.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
282.00	mcw 20m 80w	1.441
678.00	mcw 10m 90w	9.511

Total Length: 960.00 ft      Total Volume: 10.952 bbl

Num Fluid Samples: 0

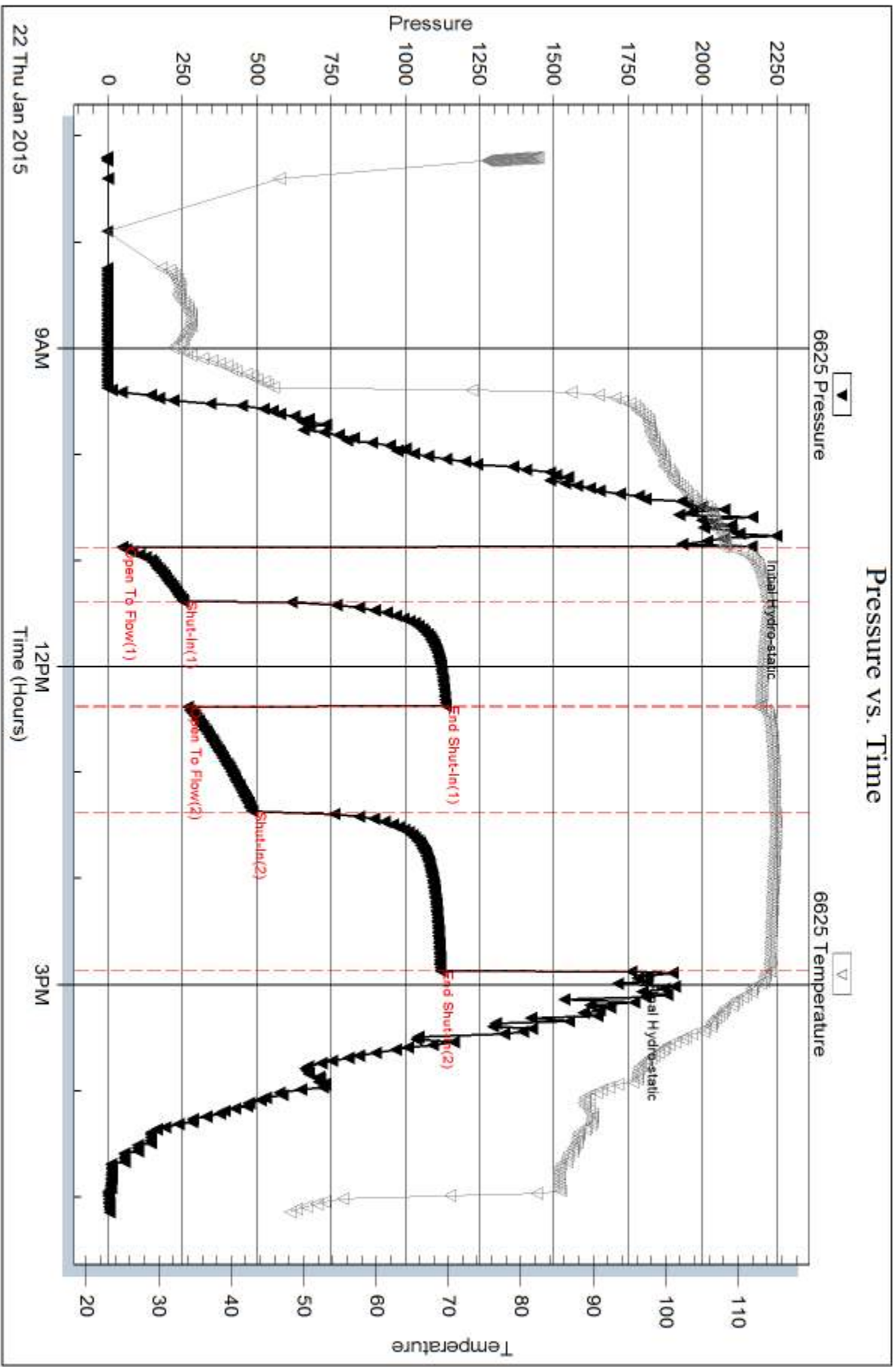
Num Gas Bombs: 0

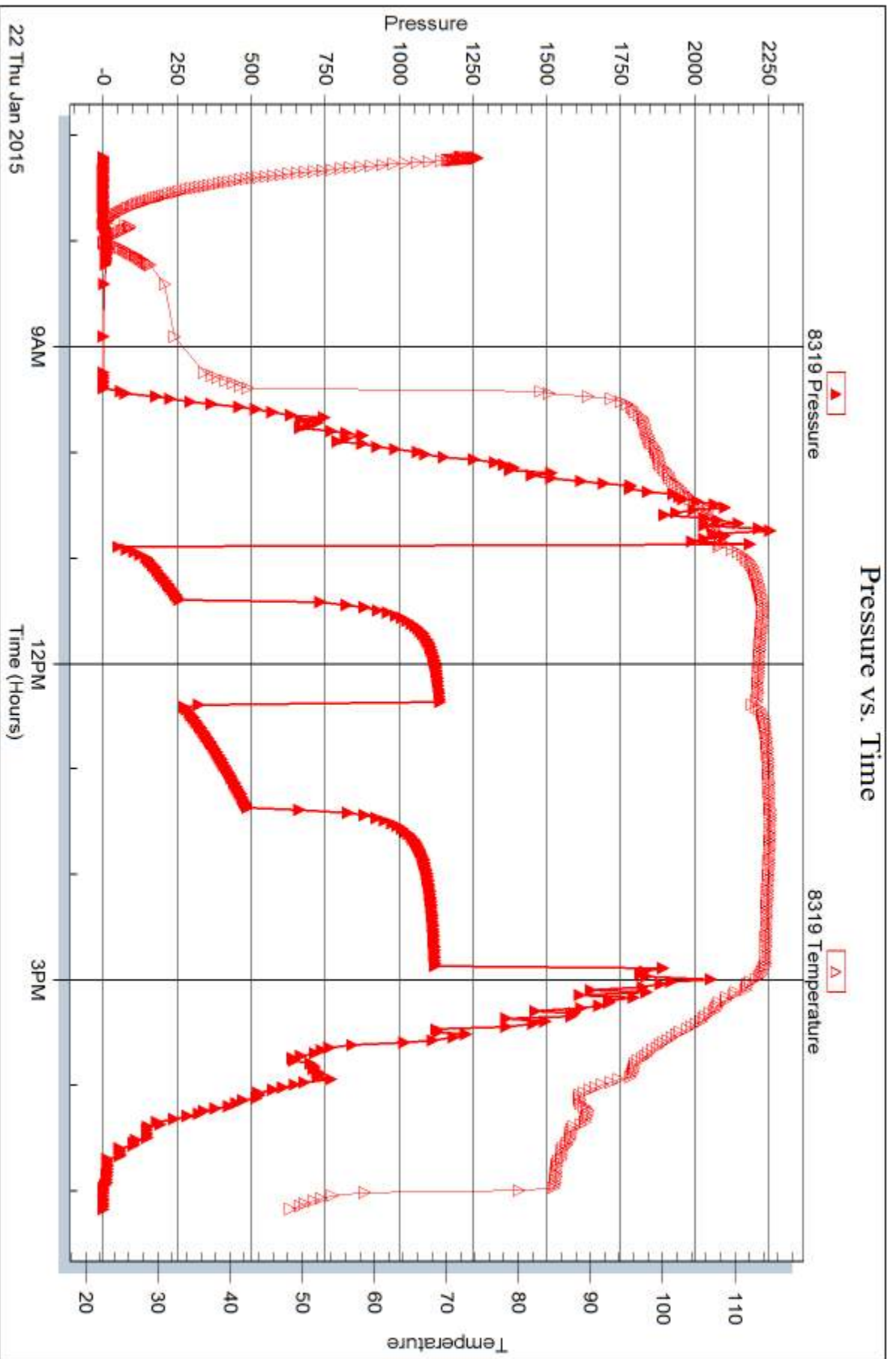
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API RW .5 @ 50F = 20000 Chlorides







## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co. Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Wes Hansen

**R&B #1-27**

**27-17s-36w Wichita,KS**

Start Date: 2015.01.23 @ 07:48:00

End Date: 2015.01.23 @ 17:05:00

Job Ticket #: 61513                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.01.29 @ 08:35:19



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 250 N Water STE 300  
 Wichita KS 67202  
 ATTN: Wes Hansen

**27-17s-36w Wichita, KS**

**R&B #1-27**

Job Ticket: 61513

**DST#: 2**

Test Start: 2015.01.23 @ 07:48:00

## GENERAL INFORMATION:

Formation: **LKC I**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:55:00  
 Time Test Ended: 17:05:00  
 Interval: **5220.00 ft (KB) To 4250.00 ft (KB) (TVD)**  
 Total Depth: 4250.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Justin Harris  
 Unit No: 58  
 Reference Elevations: 3269.00 ft (KB)  
 3258.00 ft (CF)  
 KB to GR/CF: 11.00 ft

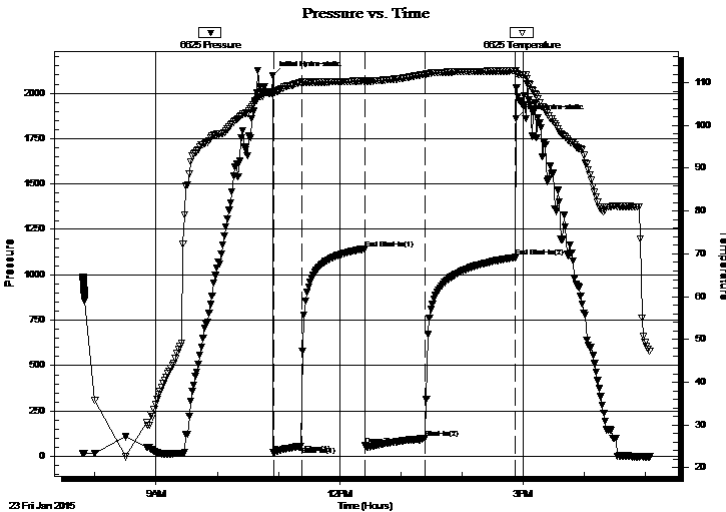
## Serial #: 6625

Outside

Press@RunDepth: 99.91 psig @ 4246.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.01.23 End Date: 2015.01.23 Last Calib.: 2015.01.23  
 Start Time: 07:48:01 End Time: 17:05:00 Time On Btm: 2015.01.23 @ 10:54:30  
 Time Off Btm: 2015.01.23 @ 14:53:00

TEST COMMENT: 30: Weak surface blow build to 2".  
 60: No Return.  
 60: Weak surface blow  
 90: No Return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2095.32	107.83	Initial Hydro-static
1	19.99	107.47	Open To Flow (1)
28	58.04	110.05	Shut-In(1)
90	1142.93	110.43	End Shut-In(1)
91	60.04	109.96	Open To Flow (2)
149	99.91	111.91	Shut-In(2)
238	1095.90	112.76	End Shut-In(2)
239	1860.44	112.86	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
124.00	w cm 10w 90m	0.61

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
250 N Water STE 300  
Wichita KS 67202  
ATTN: Wes Hansen

**27-17s-36w Wichita,KS**  
**R&B #1-27**  
Job Ticket: 61513  
Test Start: 2015.01.23 @ 07:48:00

**DST#: 2**

## Tool Information

Drill Pipe:	Length: 3929.00 ft	Diameter: 3.80 inches	Volume: 55.11 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose:	90000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial	80000.00 lb
Depth to Top Packer:	4220.00 ft			Final	81000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	30.00 ft				
Tool Length:	58.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4193.00	
Shut In Tool	5.00			4198.00	
Hydraulic tool	5.00			4203.00	
Jars	5.00			4208.00	
Safety Joint	3.00			4211.00	
Packer	5.00			4216.00	28.00 Bottom Of Top Packer
Packer	4.00			4220.00	
Stubb	1.00			4221.00	
Perforations	25.00			4246.00	
Recorder	0.00	6625	Outside	4246.00	
Recorder	0.00	8319	Inside	4246.00	
Bullnose	4.00			4250.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Co. Inc  
250 N Water STE 300  
Wichita KS 67202  
ATTN: Wes Hansen

**27-17s-36w Wichita,KS**  
**R&B #1-27**  
Job Ticket: 61513      **DST#: 2**  
Test Start: 2015.01.23 @ 07:48:00

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 18000 ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.96 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 6500.00 ppm		
Filter Cake: 2.00 inches		

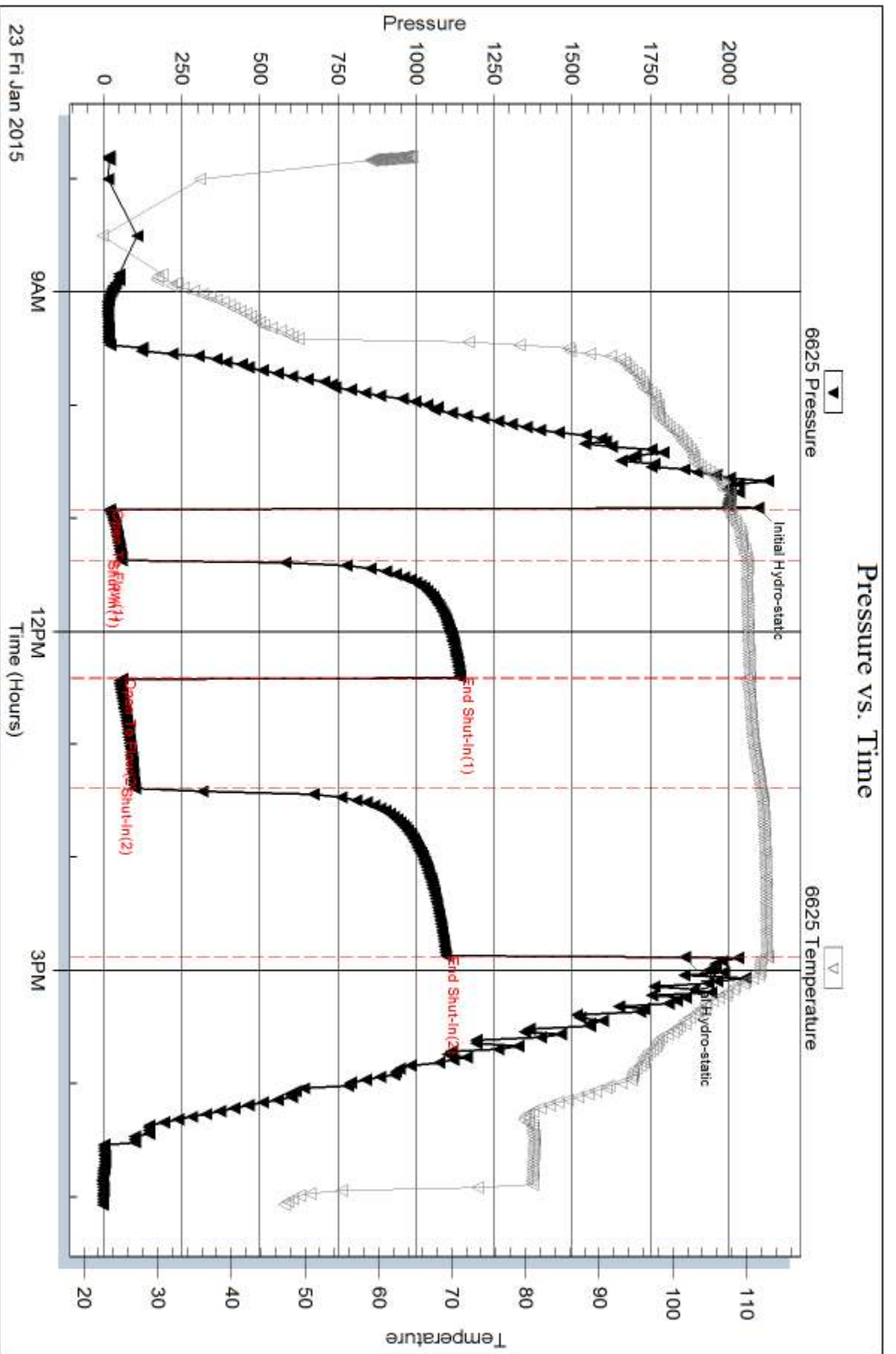
### Recovery Information

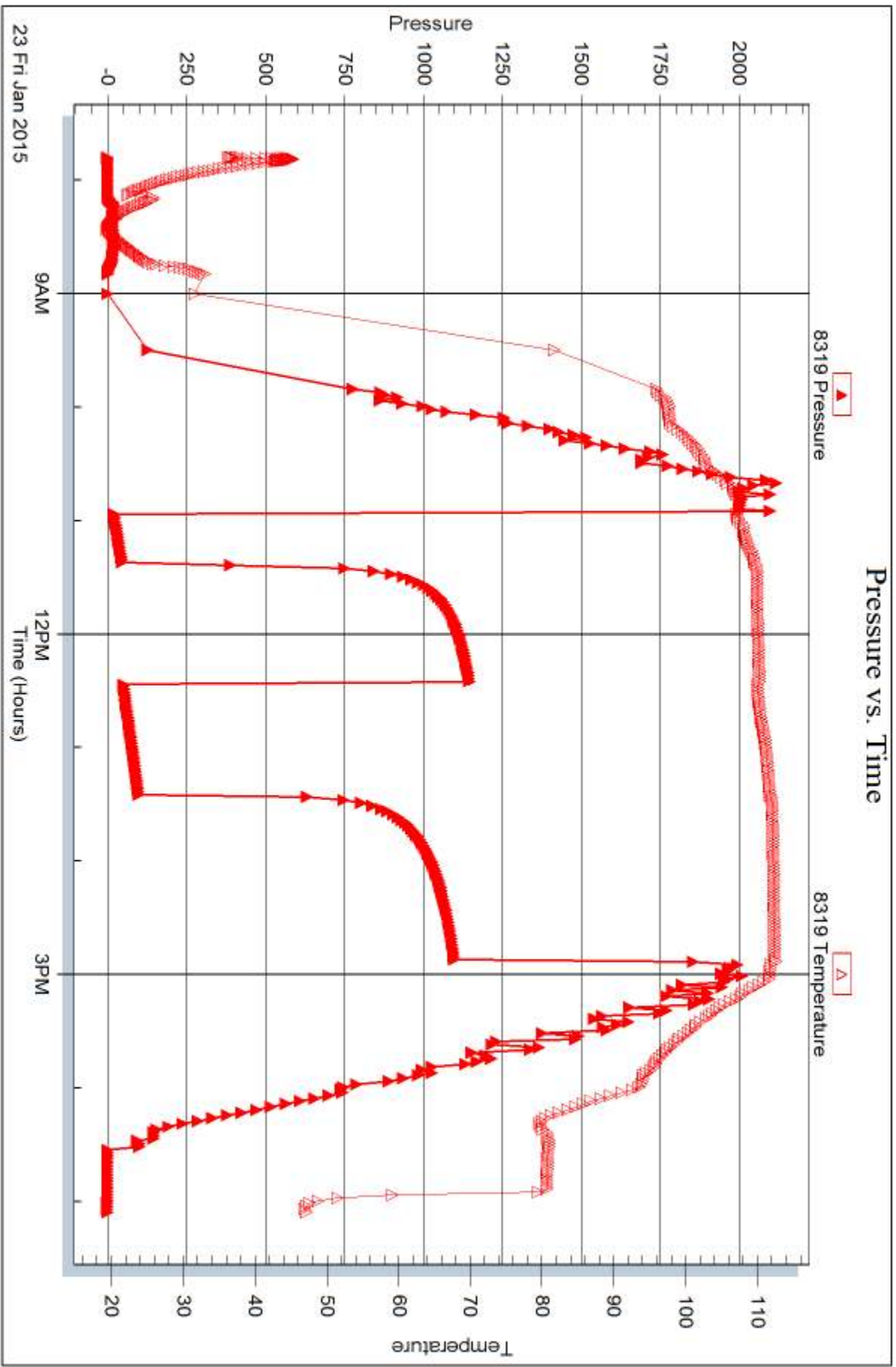
Recovery Table

Length ft	Description	Volume bbl
124.00	w cm 10w 90m	0.610

Total Length: 124.00 ft      Total Volume: 0.610 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: API RW .45 @ 60 F = 18000 Chlorides









## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co. Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Wes Hansen

**R&B #1-27**

**27-17s-36w Wichita,KS**

Start Date: 2015.01.24 @ 21:30:00

End Date: 2015.01.25 @ 07:14:30

Job Ticket #: DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.01.29 @ 08:34:53



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
 250 N Water STE 300  
 Wichita KS 67202  
 ATTN: Wes Hansen

**27-17s-36w Wichita, KS**

**R&B #1-27**

Job Ticket: **DST#: 3**

Test Start: 2015.01.24 @ 21:30:00

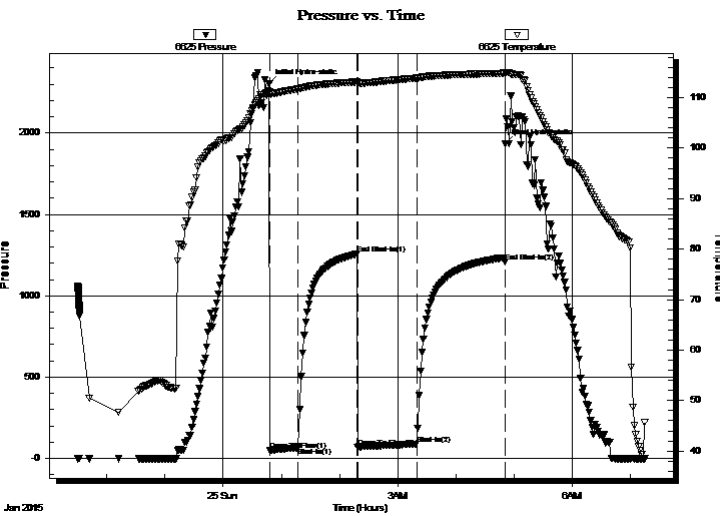
## GENERAL INFORMATION:

Formation: **Marmaton**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:48:00  
 Time Test Ended: 07:14:30  
 Interval: **4446.00 ft (KB) To 4520.00 ft (KB) (TVD)**  
 Total Depth: 4520.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Justin Harris  
 Unit No: 58  
 Reference Elevations: 3269.00 ft (KB)  
 3258.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 6625 Outside**

Press@RunDepth: 89.11 psig @ 4516.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.01.24 End Date: 2015.01.25 Last Calib.: 2015.01.24  
 Start Time: 21:30:01 End Time: 07:14:30 Time On Btm: 2015.01.25 @ 00:47:30  
 Time Off Btm: 2015.01.25 @ 04:51:00

TEST COMMENT: 30: Weak surface blow Build to 1 1/2".  
 60: No Return.  
 60: No Blow .  
 90: No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2305.25	111.20	Initial Hydro-static
1	48.41	110.78	Open To Flow (1)
30	71.12	111.74	Shut-In(1)
91	1256.44	113.13	End Shut-In(1)
91	70.58	112.93	Open To Flow (2)
152	89.11	113.88	Shut-In(2)
243	1206.15	114.84	End Shut-In(2)
244	1935.65	115.00	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
100.00	Mud	0.49

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
250 N Water STE 300  
Wichita KS 67202  
ATTN: Wes Hansen

**27-17s-36w Wichita,KS**  
**R&B #1-27**  
Job Ticket: **DST#: 3**  
Test Start: 2015.01.24 @ 21:30:00

## Tool Information

Drill Pipe:	Length: 4149.00 ft	Diameter: 3.80 inches	Volume: 58.20 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 82000.00 lb
Depth to Top Packer:	4446.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	74.00 ft			
Tool Length:	102.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4419.00	
Shut In Tool	5.00			4424.00	
Hydraulic tool	5.00			4429.00	
Jars	5.00			4434.00	
Safety Joint	3.00			4437.00	
Packer	5.00			4442.00	28.00 Bottom Of Top Packer
Packer	4.00			4446.00	
Stubb	1.00			4447.00	
Perforations	4.00			4451.00	
Change Over Sub	1.00			4452.00	
Drill Pipe	63.00			4515.00	
Change Over Sub	1.00			4516.00	
Recorder	0.00	6625	Outside	4516.00	
Recorder	0.00	8319	Inside	4516.00	
Bullnose	4.00			4520.00	74.00 Bottom Packers & Anchor

**Total Tool Length: 102.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc

**27-17s-36w Wichita, KS**

250 N Water STE 300  
Wichita KS 67202

**R&B #1-27**

Job Ticket:

**DST#: 3**

ATTN: Wes Hansen

Test Start: 2015.01.24 @ 21:30:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
100.00	Mud	0.492

Total Length: 100.00 ft

Total Volume: 0.492 bbl

Num Fluid Samples: 0

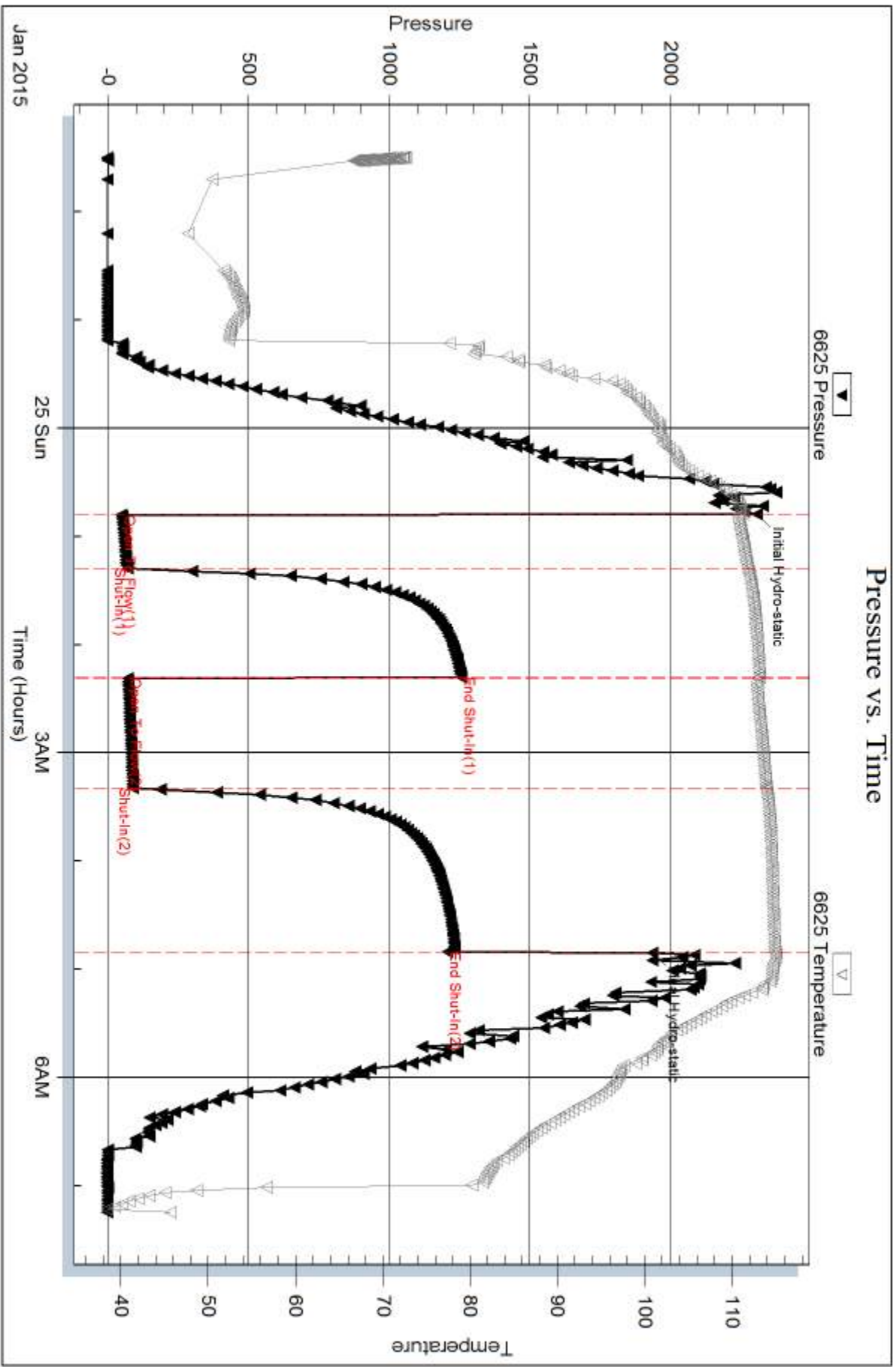
Num Gas Bombs: 0

Serial #:

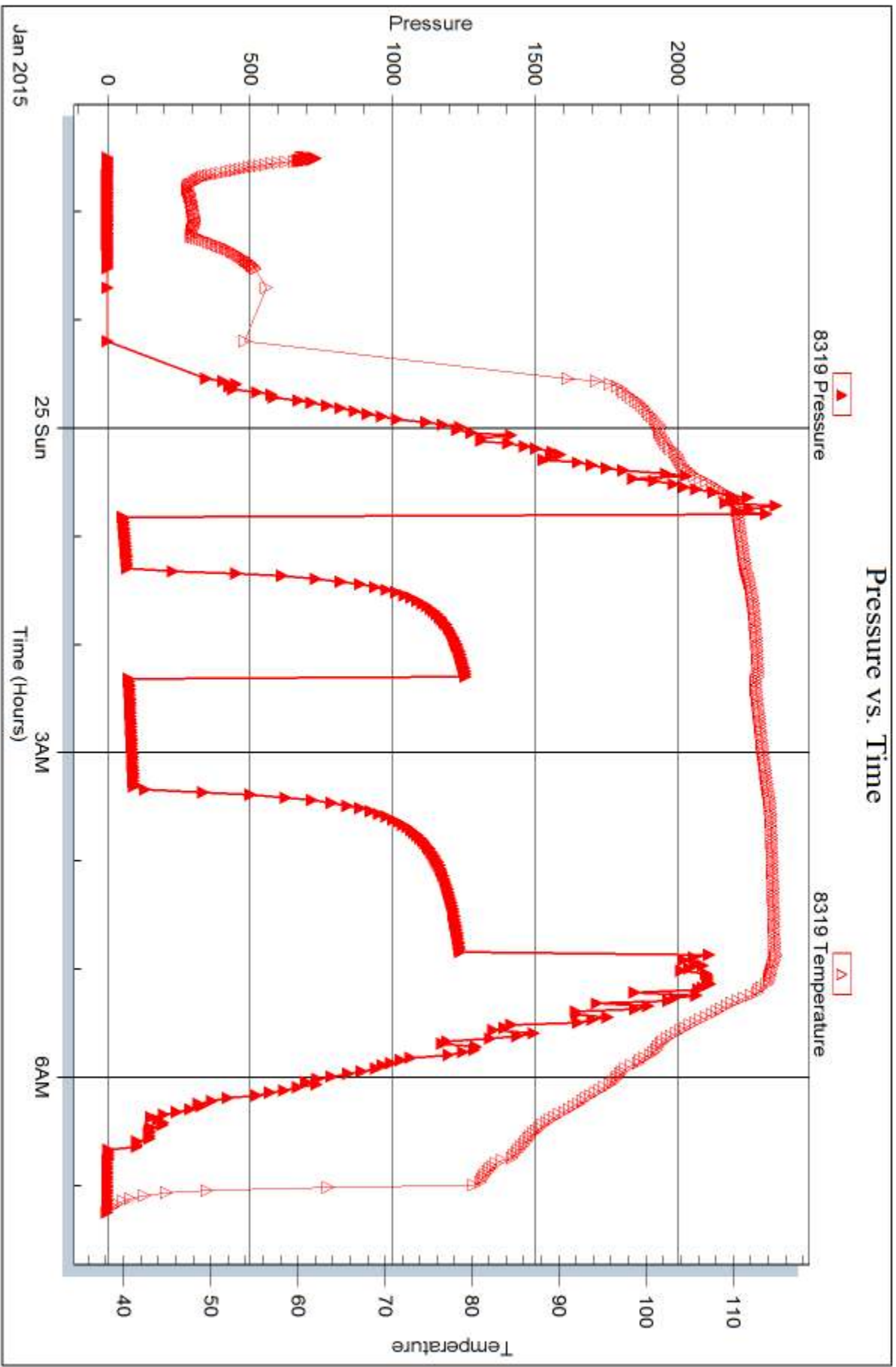
Laboratory Name:

Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co. Inc**

250 N Water STE 300  
Wichita KS 67202

ATTN: Wes Hansen

### **R&B #1-27**

#### **27-17s-36w Wichita,KS**

Start Date: 2015.01.25 @ 22:00:00

End Date: 2015.01.26 @ 05:51:00

Job Ticket #: 61515                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.01.29 @ 08:34:06



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Murfin Drilling Co. Inc  
250 N Water STE 300  
Wichita KS 67202  
ATTN: Wes Hansen

**27-17s-36w Wichita,KS**

**R&B #1-27**

Job Ticket: 61515

**DST#: 4**

Test Start: 2015.01.25 @ 22:00:00

## GENERAL INFORMATION:

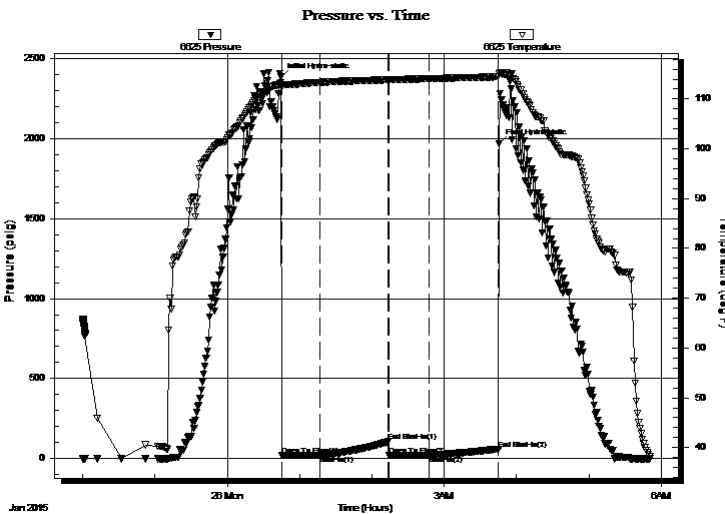
Formation: **Pawnee - Ft Scott**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:45:00  
 Time Test Ended: 05:51:00  
 Interval: **4516.00 ft (KB) To 4600.00 ft (KB) (TVD)**  
 Total Depth: 4600.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Justin Harris  
 Unit No: 58  
 Reference Elevations: 3269.00 ft (KB)  
 3258.00 ft (CF)  
 KB to GR/CF: 11.00 ft

**Serial #: 6625 Outside**

Press@RunDepth: 20.87 psig @ 4596.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.01.25 End Date: 2015.01.26 Last Calib.: 2015.01.26  
 Start Time: 22:00:01 End Time: 05:51:00 Time On Btm: 2015.01.26 @ 00:44:30  
 Time Off Btm: 2015.01.26 @ 03:45:30

TEST COMMENT: 30: Weak surface blow die in 11 mins.  
 60: No Return.  
 30: No Blow .  
 60: No Return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2384.90	113.30	Initial Hydro-static
1	17.92	112.40	Open To Flow (1)
33	20.89	113.34	Shut-In(1)
89	104.53	113.85	End Shut-In(1)
90	20.32	113.88	Open To Flow (2)
123	20.87	114.08	Shut-In(2)
181	59.43	114.46	End Shut-In(2)
181	1968.04	115.01	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.02

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Co. Inc  
250 N Water STE 300  
Wichita KS 67202  
ATTN: Wes Hansen

**27-17s-36w Wichita,KS**  
**R&B #1-27**  
Job Ticket: 61515  
Test Start: 2015.01.25 @ 22:00:00

**DST#: 4**

## Tool Information

Drill Pipe:	Length: 4244.00 ft	Diameter: 3.80 inches	Volume: 59.53 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 276.00 ft	Diameter: 2.25 inches	Volume: 1.36 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 84000.00 lb
Depth to Top Packer:	4516.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	84.00 ft			
Tool Length:	112.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4489.00	
Shut In Tool	5.00			4494.00	
Hydraulic tool	5.00			4499.00	
Jars	5.00			4504.00	
Safety Joint	3.00			4507.00	
Packer	5.00			4512.00	28.00 Bottom Of Top Packer
Packer	4.00			4516.00	
Stubb	1.00			4517.00	
Perforations	14.00			4531.00	
Change Over Sub	1.00			4532.00	
Drill Pipe	63.00			4595.00	
Change Over Sub	1.00			4596.00	
Recorder	0.00	6625	Outside	4596.00	
Recorder	0.00	8319	Inside	4596.00	
Bullnose	4.00			4600.00	84.00 Bottom Packers & Anchor

**Total Tool Length: 112.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Co. Inc  
250 N Water STE 300  
Wichita KS 67202  
ATTN: Wes Hansen

**27-17s-36w Wichita,KS**  
**R&B #1-27**  
Job Ticket: 61515      **DST#: 4**  
Test Start: 2015.01.25 @ 22:00:00

## Mud and Cushion Information

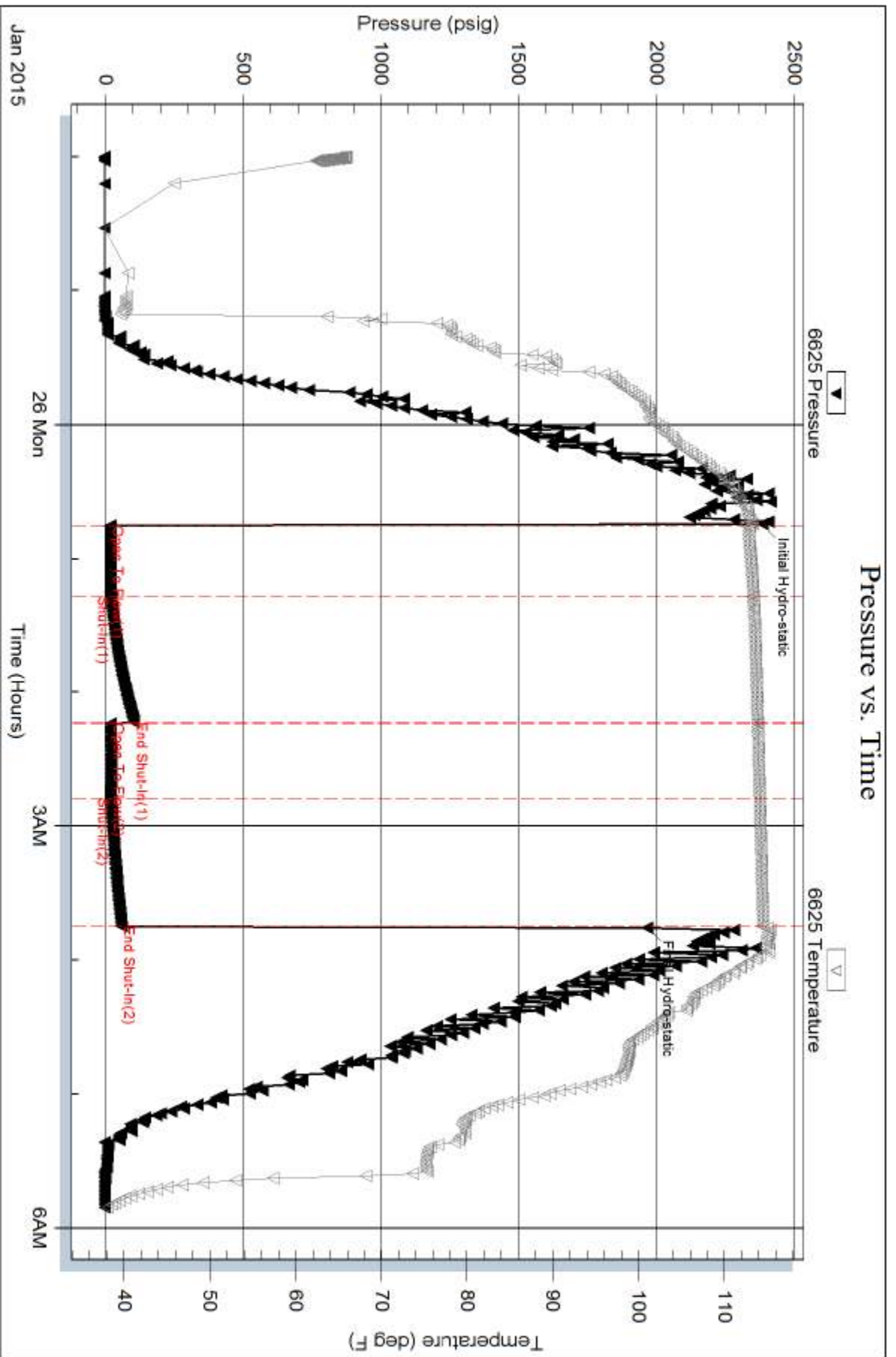
Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 61.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.79 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6000.00 ppm			
Filter Cake: 1.00 inches			

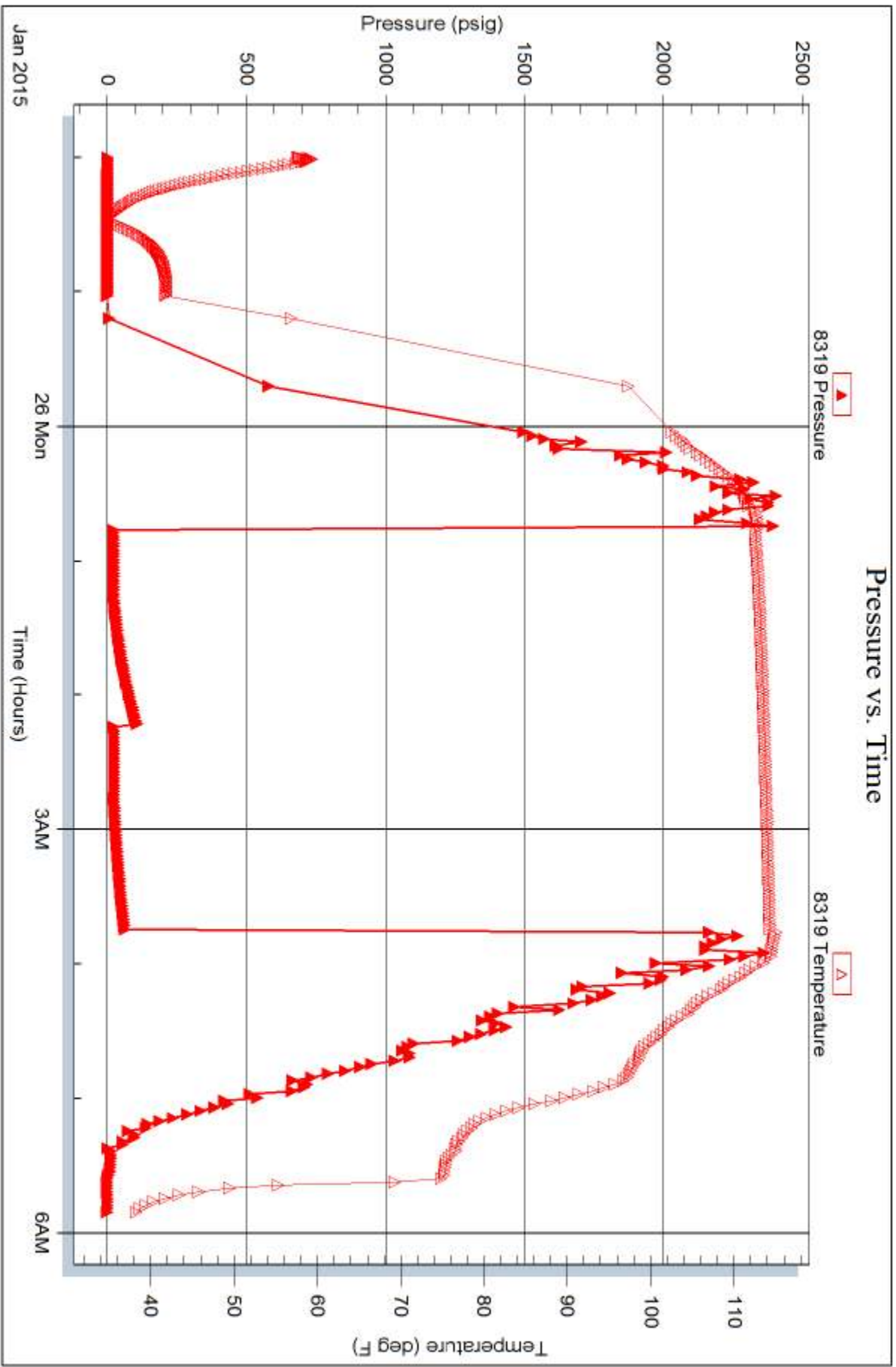
## Recovery Information

Recovery Table

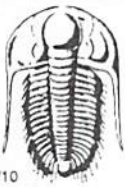
Length ft	Description	Volume bbl
5.00	Mud	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:









# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **61512**

Well Name & No. R + B 1-27 Test No. 1 Date 1/22  
 Company Murfin Drilling Co, Inc. Elevation 3269 KB 3258 GL  
 Address 250 N water ST# 300 Wichita KS, 67202  
 Co. Rep / Geo. Wes Hansen Rig Murfin #4  
 Location: Sec. 27 Twp. 17S Rge. 36W Co. Wichita State KS

Interval Tested 4114 4140 Zone Tested Lansing E + F  
 Anchor Length 24 Drill Pipe Run 3835 Mud Wt. 9.4  
 Top Packer Depth 4112 Drill Collars Run 276 Vis 60  
 Bottom Packer Depth 4114 Wt. Pipe Run 600 WL 8.0  
 Total Depth 4140 Chlorides 4500 ppm System LCM 6

Blow Description 30 B.O.B in 8 mins  
60 No Return  
60 B.O.B in 8 mins  
90 No Return

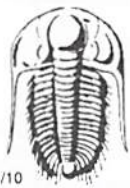
Rec	Feet of	%gas	%oil	%water	%mud
<u>282</u>	<u>mcw</u>			<u>80</u>	<u>20</u>
<u>478</u>	<u>mcw</u>			<u>90</u>	<u>10</u>

Rec Total 960' BHT 114 Gravity — API RW .50 @ 52 °F Chlorides 20000 ppm  
 (A) Initial Hydrostatic 2144  Test 1150 T-On Location 6:45  
 (B) First Initial Flow 48  Jars 250 T-Started 7:12  
 (C) First Final Flow 253  Safety Joint 75 T-Open 10:51  
 (D) Initial Shut-In 1136  Circ Sub n/c T-Pulled 17:51  
 (E) Second Initial Flow 269  Hourly Standby T-Out 17:10  
 (F) Second Final Flow 486  Mileage 54 RT 54 Comments \_\_\_\_\_  
 (G) Final Shut-In 1118  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1762  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Ruined Packer \_\_\_\_\_  
 Final Flow 60  Extra Copies \_\_\_\_\_  
 Final Shut-In 90 Sub Total 0  
 Total 1529  
 Sub Total 1529 MP/DST Disc't \_\_\_\_\_

Approved By Wesley Hansen Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61513

Well Name & No. A + B 1-27 Test No. 2 Date 1/23  
 Company Murfin Drilling Co, Inc Elevation 3269 KB 3258 GL  
 Address 250 N Water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. Wes Hansen Rig Murfin #4  
 Location: Sec. 27 Twp. 13s Rge. 36w Co. Wichita State KS

Interval Tested 4220 4250 Zone Tested Lansing "T"  
 Anchor Length 30 Drill Pipe Run 3929 Mud Wt. 9.4  
 Top Packer Depth 4214 Drill Collars Run 276 Vis 40  
 Bottom Packer Depth 4220 Wt. Pipe Run Ø WL 8  
 Total Depth 4250 Chlorides 4500 ppm System LCM 6

Blow Description 30 Weak surface blow build to 2"  
60 No Return  
60 Weak surface blow  
90 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>WCM</u>			<u>10</u>	<u>90</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 124 BHT 113 Gravity - API RW .45 @ 60 °F Chlorides 18000 ppm  
 (A) Initial Hydrostatic 2095  Test 1150 T-On Location 7:55  
 (B) First Initial Flow 20  Jars 250 T-Started 7:48  
 (C) First Final Flow 58  Safety Joint 75 T-Open 10:50  
 (D) Initial Shut-In 1143  Circ Sub N/C T-Pulled 14:50  
 (E) Second Initial Flow 60  Hourly Standby \_\_\_\_\_ T-Out 17:05  
 (F) Second Final Flow 100  Mileage 54 RT 54  
 (G) Final Shut-In 1096  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1860  Straddle \_\_\_\_\_

Initial Open 30  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Ruined Packer \_\_\_\_\_  
 Final Flow 60  Extra Packer \_\_\_\_\_  
 Final Shut-In 90  Extra Recorder \_\_\_\_\_  
 Sub Total 0  
 Total 1529  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1529

Approved By Wes Hansen Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61514

Well Name & No. B + B 1-27 Test No. 3 Date 1/24 1/25  
 Company Murfin Drilling Co, Inc Elevation 3269 KB 3258 GL  
 Address 250 N Water STE 300 Wichita ks 67202  
 Co. Rep / Geo. Wes Hansen Rig Murfin #4  
 Location: Sec. 27 Twp. 13S Rge. 36W Co. Wichita State KS

Interval Tested 4446 4520 Zone Tested Marmaton  
 Anchor Length 74' Drill Pipe Run 4149 Mud Wt. 9.1  
 Top Packer Depth 4442 Drill Collars Run 276 Vis 59  
 Bottom Packer Depth 4446 Wt. Pipe Run Ø WL 5.6  
 Total Depth 4520 Chlorides 5000 ppm System LCM 6

Blow Description 30 weak surface blow build to 1 1/2"  
60 No Return  
60 No Blow  
70 No Return

Rec	Feet of	%gas	%oil	%water	%mud
100	mud			100	

Rec Total 100 BHT 115 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2305</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>21:20</u>
(B) First Initial Flow <u>48</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>21:30</u>
(C) First Final Flow <u>77</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>00:48</u>
(D) Initial Shut-In <u>1256</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>4:48</u>
(E) Second Initial Flow <u>71</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>7:15</u>
(F) Second Final Flow <u>89</u>	<input checked="" type="checkbox"/> Mileage <u>54 RT</u> 54	Comments
(G) Final Shut-In <u>1206</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1936</u>	<input type="checkbox"/> Straddle	

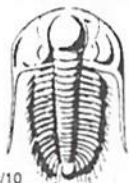
Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Ruined Shale Packer  
 Ruined Packer  
 Extra Copies  
 Sub Total 0  
 Total 1529  
 MP/DST Disc't —

Sub Total 1529

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61515

Well Name & No. R & B 1-27 Test No. 4 Date 1/25/1/26  
 Company Murfin Drilling Co, Inc Elevation 3269 KB 3268 GL  
 Address 250 N Water STE 300 Wichita KS, 67202  
 Co. Rep / Geo. was Hansen Rig Murfin #4  
 Location: Sec. R7 Twp. 13S Rge. 36W Co. Wichita State KS

Interval Tested 4516 4400 Zone Tested Pawnee / FT Scott  
 Anchor Length ~~4512~~ 511' Drill Pipe Run 4244 Mud Wt. 9.1  
 Top Packer Depth 4512 Drill Collars Run 276 Vis 41  
 Bottom Packer Depth 4510 Wt. Pipe Run Ø WL 4.8  
 Total Depth 4400 Chlorides 6000 ppm System LCM 6

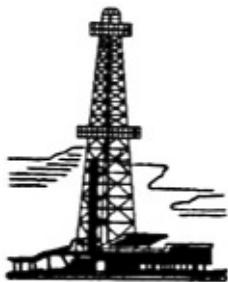
Blow Description 30 Weak surface blow Die in 11 min  
60 No Return  
30 No Blow  
40 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 115 Gravity - API RW - @ - °F Chlorides - ppm  
 (A) Initial Hydrostatic 2385  Test 1150 T-On Location 21:45  
 (B) First Initial Flow 18  Jars 250 T-Started 22:00  
 (C) First Final Flow 21  Safety Joint 75 T-Open 00:42  
 (D) Initial Shut-In 105  Circ Sub N/C T-Pulled 3:42  
 (E) Second Initial Flow 20  Hourly Standby - T-Out 5:51  
 (F) Second Final Flow 21  Mileage 54 RT X 2 54 Comments Load tool  
 (G) Final Shut-In 59  Sampler - 54 at 10:30 AM on  
 (H) Final Hydrostatic 1968  Straddle - 1/27/15  
 Ruined Shale Packer  
 Ruined Packer  
 Extra Copies

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60  
 Sub Total 0  
 Total 1583  
 Sub Total 1583  
 MP/DST Disc't -

Approved By \_\_\_\_\_ Our Representative [Signature]  
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**WESLEY D. HANSEN Consulting Petroleum Geologist**

212 N. Market, Suite 257, Wichita, KS 67202  
Office: 316-267-7313 Cellular ; 316-772-6188  
email: whansen4651@sbcglobal.net

**KGS  
AAPG  
Kansas License #418**



**Scale 1:240 (5"=100') Imperial  
Measured Depth Log**

**Well Name:** Murfin Drilling Co., Inc. #1-27 R&B  
**Location:** 1300' FNL, 1130' FEL of Section 27-17S-36W  
**License Number:** API: 15-203-20302  
**Spud Date:** 1-17-2015  
**Surface Coordinates:** 1300' FNL, 1130' FEL of Section 27-17S-36W  
**Region:** Wichita County, KS  
**Drilling Completed:** 1-27-2015

**Bottom Hole Vertical hole  
Coordinates:**  
**Ground Elevation (ft):** 3258' **K.B. Elevation (ft):** 3269'  
**Logged Interval (ft):** 3600' **To:** RTD **Total Depth (ft):** 4940'  
**Formation:** Mississippian at RTD  
**Type of Drilling Fluid:** Chemical - Displaced at 3380'

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

#### **OPERATOR**

**Company:** Murfin Drilling Co., Inc.  
**Address:** 250 N. Water  
Suite 300  
Wichita, KS 67202

#### **GEOLOGIST**

**Name:** Wesley D. Hansen  
**Company:** Wesley D. Hansen - Consulting Petroleum Geologist  
**Address:** 212 N. Market, Suite 257  
Wichita, KS 67202  
**Office:** 316-263-7313 **Cellular:** 316-772-6188

## COMMENTS

Contractor: Murfin Drilling Co., Inc. Rig #4  
Pusher: Kelly Wilson

Surface Casing: 8 5/8" set at 268' w/200sx  
Production Casing: P&A

Mud by: MudCo - Tony Maestas and Reid Atkins were the engineers

DST's by: Trilobite - Justin Harris was the tester

Logs by: Pioneer Wireline (DIL, CN-CD, MEL, BHCS)

Deviation Surveys: 1/2 deg. @ 270'; 1 3/4 @ 3464'; 1 1/2 deg. @ 4140'; 1 1/2 deg. @ 4600'

Bit #	Size	MFG	Type	Depth Out	Footage Cut	Hours on bit
1	12 1/4"	HTC	GTC1	270'	270'	4
2	7 7/8"	HTC	DP506	3464'	3194'	48 3/4
3	7 7/8"	HTC	GX20C	4940'	1476'	87

## FORMATION TOPS AND STRUCTURAL COMPARISON

FORMATION	SAMPLE TOPS		LOG TOPS		COMPARISON WELL	
	Depth	Datum	Depth	Datum	MDCI Gerstberger #1-29	29-17S-36W 3298' KB
	3269'	KB	3269'	KB		
Base/Anhydrite	picked wrong		2452'	+817	+861	-59
Topeka	3711'	-442	3716'	-447	-388	-59
Heebner	3957'	-688	3959'	-690	-621	-69
Lansing	4008'	-739	4006'	-737	-672	-65
Stark Shale	4279'	-1010	4279'	-1010	-946	-64
Pawnee	4514'	-1245	4512'	-1243	-1196	-47
Fort Scott	4564'	-1295	4564'	-1295	-1242	-53
Cherokee Shale	4592'	-1323	4591'	-1322	-1268	-54
Johnson	4646'	-1377	4646'	-1377	-1324	-53
Atoka	4682'	-1413	4676'	-1407	-1357	-50
Morrow	4747'	-1478	4744'	-1475	-1426	-49
Mississippian	4842'	-1573	4840'	-1571	-1501	-70
RTD	4940'	-1671				
LTD			4940'	-1671		

# DRILL STEM TESTS

DST No. 1 Lansing "E" and "F"  
Interval: 4116'-4140'  
Times: 30-60-60-90  
Recovery: 282' MCW (20m, 80w); 678' MCW  
(10m, 90w); chl. 20,000; total fluid 960'  
FP: 48-253/269-486 SIP: 1136-1118  
HP: 2164-1762 BHT: 114 deg. F

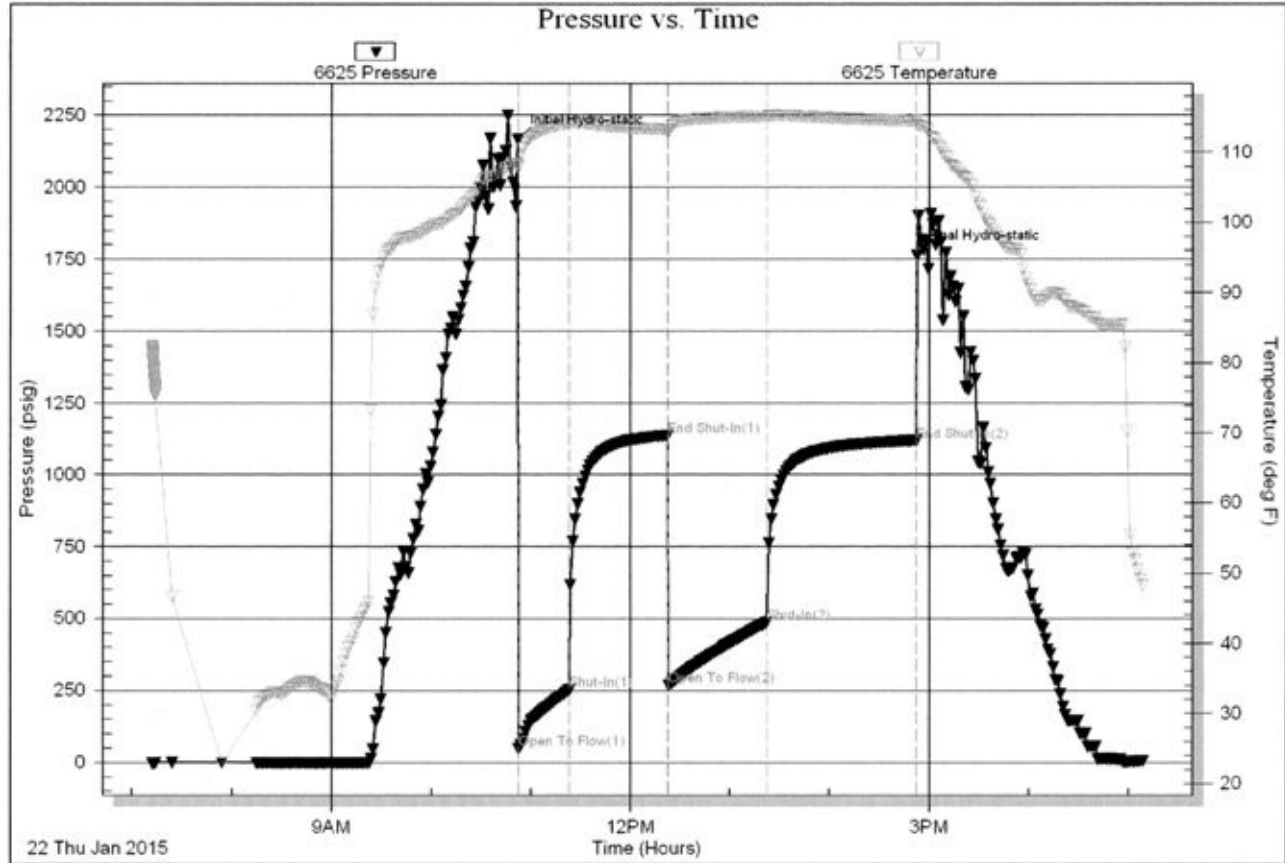
IFP: B.O.B. in 8 minutes  
ISIP: no return blow  
FFP: B.O.B. in 8 minutes  
FSIP: no return blow

Serial #: 6625

Outside Murfin Drilling Co. Inc

R&B 1-27

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 61512

Printed: 2015.01.22 @ 17:23:41

# DRILL STEM TESTS

DST No. 2 Lansing "I" Zone  
Interval: 4220'-4250'  
Times: 30-60-60-90  
Recovery: 124' WCM (10w, 90m)  
FP: 20-58/60-100 SIP: 1143-1096  
HP: 2095-1860 BHT: 113 deg. F

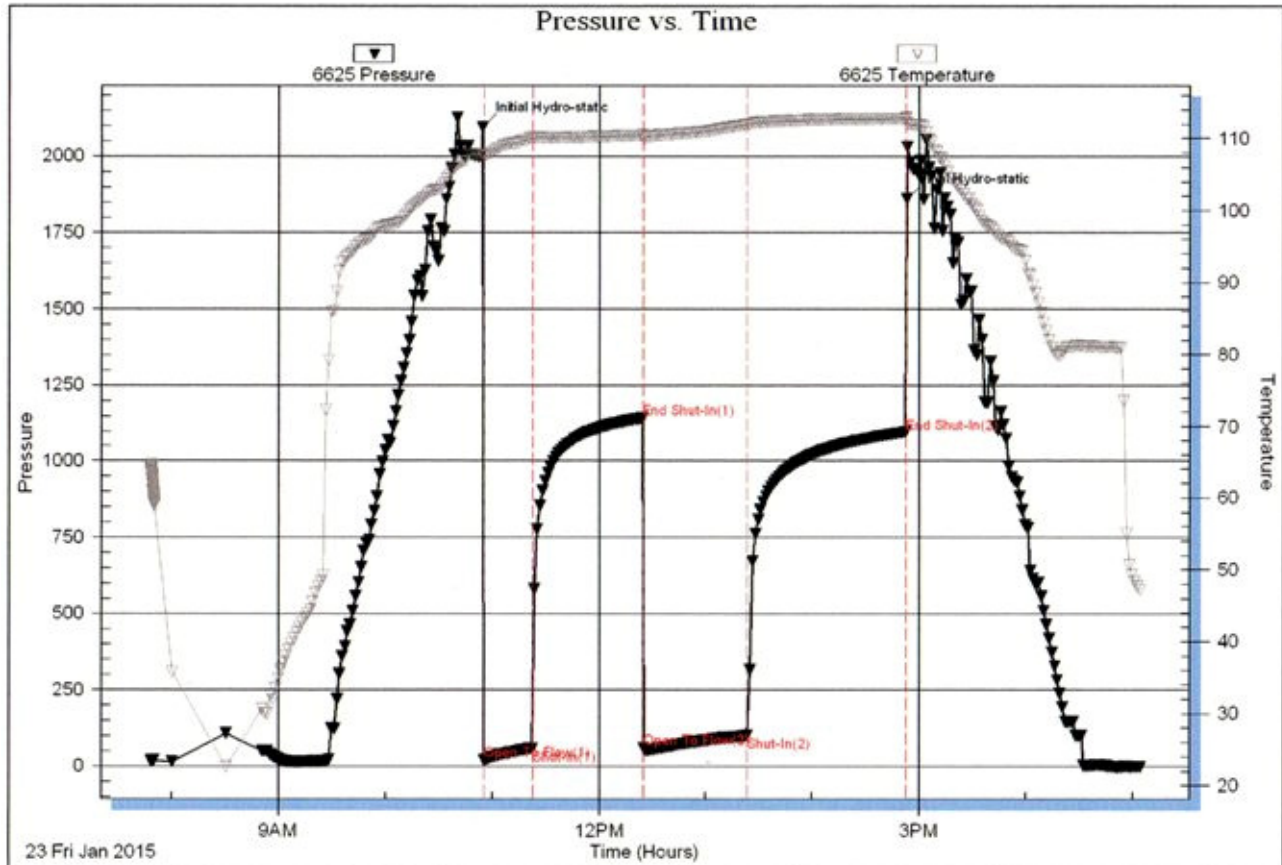
IFP: weak surface blow built to 2 inches  
ISIP: no return blow  
FFP: weak surface blow  
FSIP: no return blow

Serial #: 6625

Outside Murfin Drilling Co. Inc

R&B 1-27

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 61513

Printed: 2015.01.23 @ 17:19:01



# DRILL STEM TESTS

DST No. 3 Marmaton  
Interval: 4446'-4520'  
Times: 30-60-60-90  
Recovery: 100' mud  
FP: 48-71/71-89 SIP: 1256-1206  
HP: 2305-1936 BHT: 115 deg. F

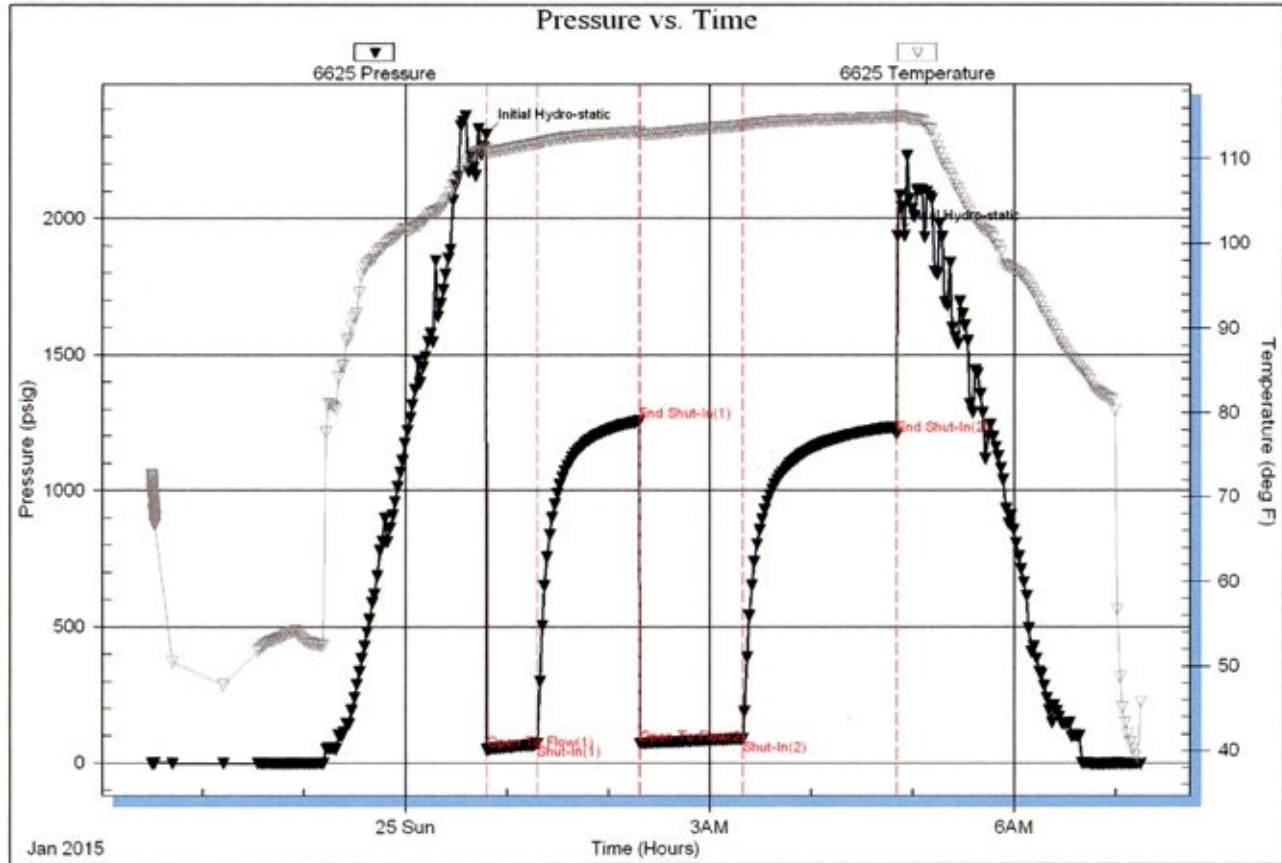
IFP: weak surface blow built to 1 1/2 inches  
ISIP: no return blow  
FFP: no blow  
FSIP: no return blow

Serial #: 6625

Outside Murfin Drilling Co. Inc

R&B 1-27

DST Test Number: 3



Triobite Testing, Inc

Ref. No:

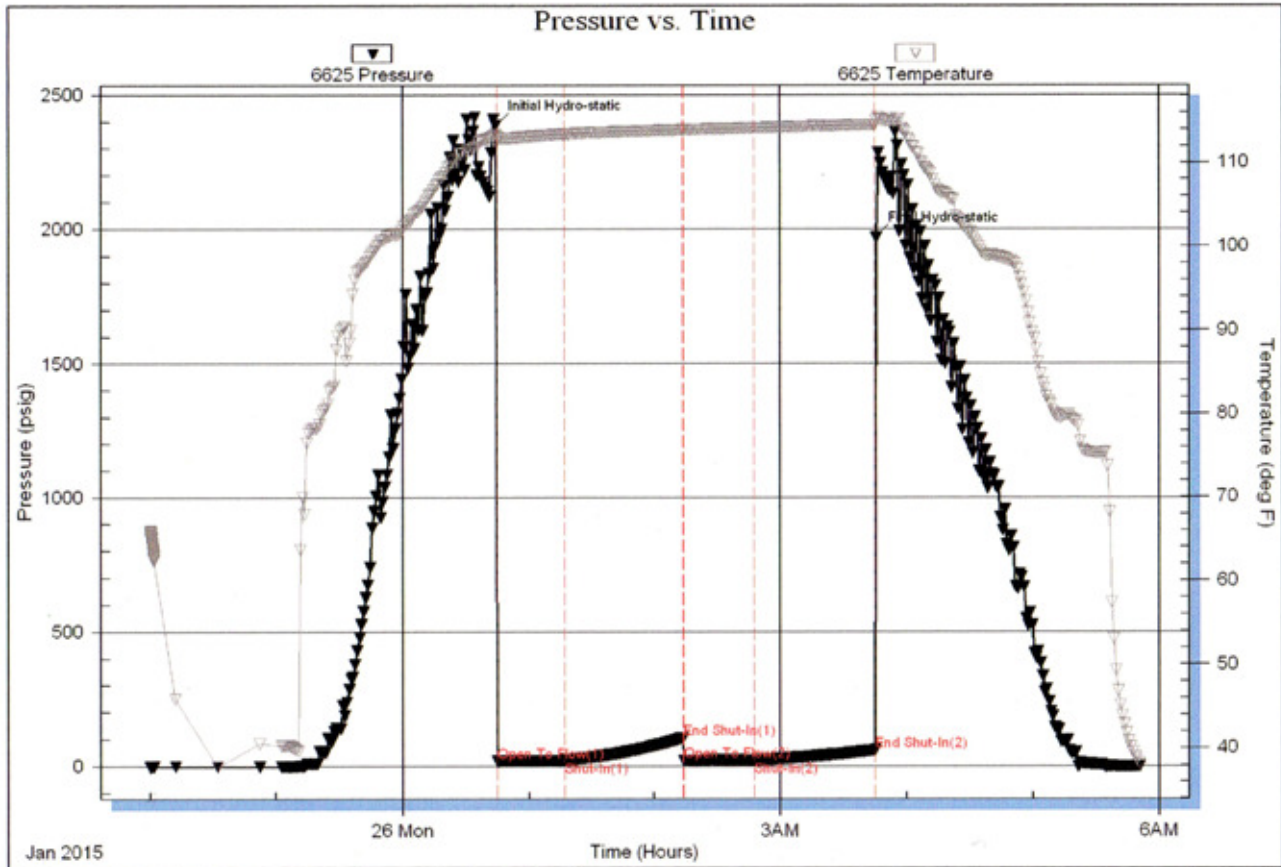
Printed: 2015.01.25 @ 07:28:42

# DRILL STEM TESTS

DST No. 4 Pawnee/Fort Scott  
 Interval: 4516'-4600'  
 Times: 30-60-30-60  
 Recovery: 5' mud  
 FP: 18-21/20-21 SIP: 105-59  
 HP: 2385-1968 BHT: 115 deg. F

IFP: weak surface blow, died in 11 minutes  
 ISIP: no return blow  
 FFP: no blow  
 FSIP: no return blow

Serial #: 6625      Outside      Murfin Drilling Co. Inc      R&B 1-27      DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 61515

Printed: 2015.01.26 @ 06:04:00

## ROCK TYPES

- Anhy
- Cht
- Coal
- Congl
- Gyp
- Ls colorless
- Lmst

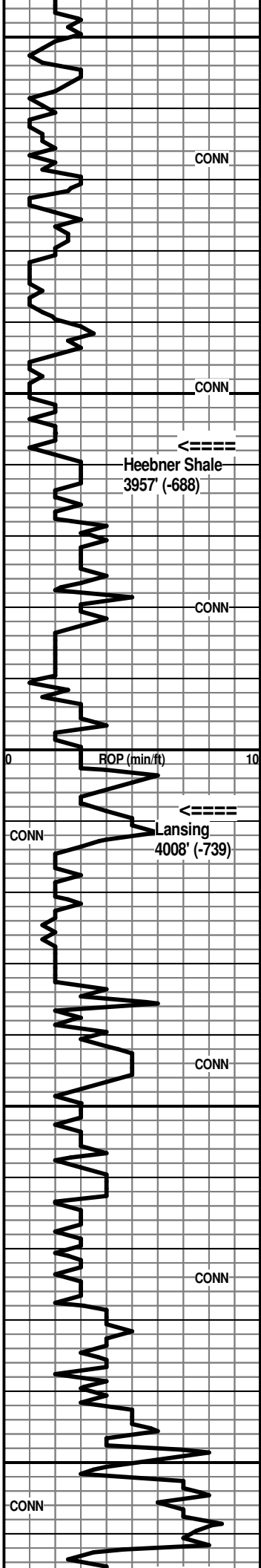
- Salt
- Shale
- Shcol
- Shgy
- Sltst
- Ss
- Carb sh

- Dol
- Dtd
- Gry sh
- Sandylms
- redshale
- Shale
- Sltstn

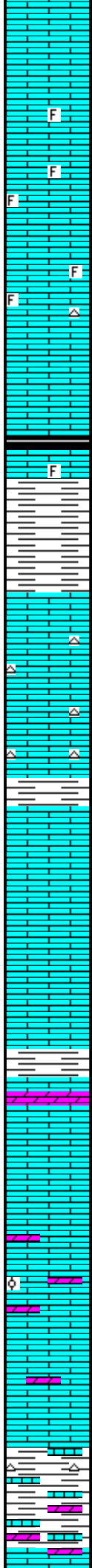
- Shlyslts
- Sltysl
- Sdy dolo
- Silty dolo
- Shy dolo
- Shaly ls







3900  
CONN  
3950  
CONN  
4000  
CONN  
4050  
CONN  
4100  
CONN



Ls: mix AA; incr. tan, offwhite mic-vfxln dense; minor gray silty shale

Ls: tan, lt brn vfxln dense; lesser tan fn granular, foss. with inter-particle por.; sl influx offwhite subchalky to chalky

F

Ls: mix AA with more tan, offwhite foss/granular; common subchalky to chalky; some mottled gray sl granular and foss.

F

Ls: offwhite, lt gray, tan fn granular. foss. with inter-particle por.; tan, offwhite, lt gray mic-vfxln dense; lesser white chalky; occ offwhite opq chert

F

Ls: various AA; some mottled gray granular, NP

80' spl - Sh: trace black carbon., some dark gray

F

Ls: abund. mottled tan/gray foss. granular, NVP and tan, offwhite mic-vfxln dense; Sh: abund. pale gray, mushy, med to dark gray, scatt. black, occ red-brn

Ls: tan, offwhite lt gray mic-vfxln dense; decr. mottled granular; scatt. offwhite opq chert

Ls: offwhite, tan, lt gray predom. vfxln dense; occ offwhite, lt gray opq chert

Ls: various dense AA, more cherty; Sh: med gray, gray-green

Sh: AA; Ls: tan, lt gray vf-cryptoxln; tan, offwhite mic-vfxln and white chalky

Ls: offwhite, lt gray mic-vfxln dense; Sh: influx soft red-brn

Ls: tan, lt gray vf-cryptoxln with small vug. por.; some med brn cryptoxln; common tan vf-cryptoxln, NVP, N.S.; Sh: lt to med gray, soft lt gray, gray-green, red-brn

Ls: lt gray, lt to med brn cryptoxln to sl mottled and granular, NVP; other tan, offwhite mic-vfxln dense, subchalky IP; Dolo: scatt. tan, offwhite fn-vfxln, N.S.

Ls: predom. lt to med brn, tan granular, poor-NVP; lesser gray, med brn cryptoxln and offwhite micxln, subchalky

Ls: incr. med brn, gray cryptoxln and offwhite, tan mic-vfxln dense; 2-3 chips offwhite, tan mic-vfxln with patchy stain, nfo, no odor; Dolo: scatt. tan vfxln

Ls: mix AA; several chips tan, lt gray fnxln with poor vis. por., with very spotty stain, nfo; 2 chips tan oolitic with some inter-oolitic por. with spotty stain, nfo, no odor; Dolo: sl incr. AA

Ls: mix med brn mottled granular and abund. tan, offwhite mic-fnxln, gen. poor vis. por., N.S.; scatt. chips with shows AA; scatt. Dolo. AA

Ls: predom. tan vf-cryptoxln; tan, lt brn fnxln with some inter-particle and ppt por., N.S.; Chert: sl influx offwhite opq; Sh: dark gray to black and pale gray mushy

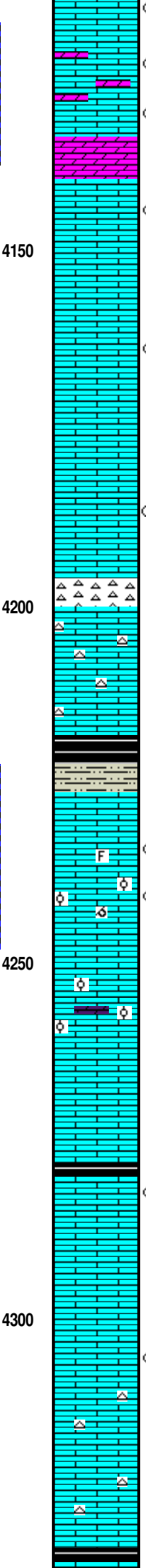
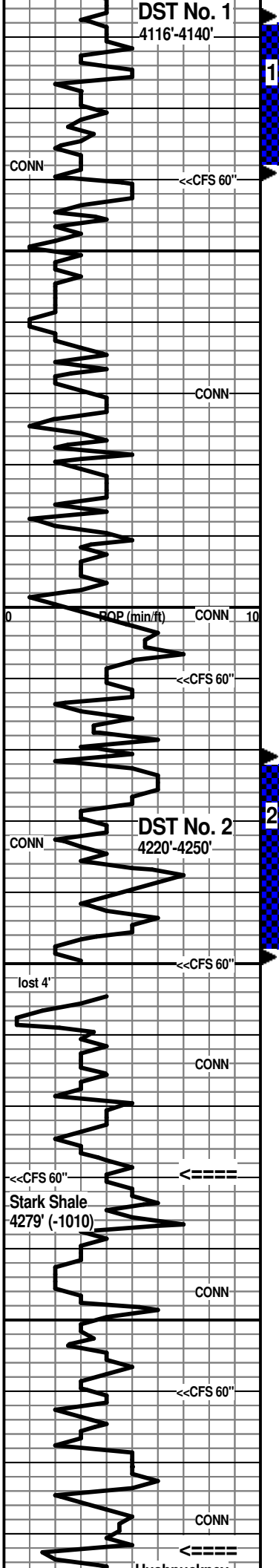
Sh: incr. % pale gray mushy, soft red, med gray, occ black;

Ls: various tan, offwhite mic-vfxln dense; 1-2 chips lt brn fnxln with ppt stain, no odor, nfo, gen. tight; Dolo: influx tan vfxln

**Heebner Shale 3957' (-688)**

**Lansing 4008' (-739)**

DST No. 1 Lansing "E" and "F"  
Interval: 4116'-4140'  
Times: 30-60-60-90  
IFP: B.O.B. in 8 minutes  
ISIP: no return blow  
FFP: B.O.B. in 8 minutes  
FSIP: no return blow  
Recovery: 282' MCW (20m, 80w); 678' MCW (10m, 90w);  
chl. 20,000; total fluid 960'  
FP: 48-253/269-486 SIP: 1136-1118  
HP: 2164-1762 BHT: 114 deg. F



Ls: predom. tan, lt brn, offwhite mic-vfxln dense; 3-4 chips tan, lt gray cryptoxln, very tight with spotty ppt stain, no odor, nfo

Ls: mix AA with more tan, offwhite granular IP with some inter-particle por., trace tan fn granular with sat. lt stain, sfo, no odor; Dolo: incr. % tan, lt brn fn-vfxln

Ls: mix various granular AA; gray, lt brn cryptoxln and tan, offwhite mic-vfxln dense; Dolo: good influx tan, offwhite vfxln, sucrosic IP, N.S.

Ls: predom. various tan, offwhite, lt brn vf-cryptoxln, NVP; scatt. offwhite, lt gray cryptoxln with scatt. vug. por. with dark stain, no odor, nfo

Ls: strong influx white chalky; tan, lt gray cryptoxln and tan, offwhite mic-vfxln dense

Ls: common tan, offwhite subchalky to white chalky; 1-2 chips lt brn sl mottled granular with poor ppt por., very hard with spotty stain, nfo, no odor

Ls: influx lt gray, lt to med brn cryptoxln to sl granular, NVP; scatt. dark gray to black shale

4200' spl - Ls: various AA with sl influx mottled gray granular; one chip offwhite cryptoxln with ppt brn stain, no odor, nfo; Sh: pale gray, mostly mushy

10' spl - Chert: good influx offwhite, lt gray, shrp, opq; Ls: tan, gray vf-cryptoxln, NVP

CFS 4210' 30" spl - Ls: tan, lt gray vf-cryptoxln AA; very cherty AA; Sh: some black; 60" spl - very cherty tile Ls's AA

20' spl - Ls: mix tan, lt gray vf-cryptoxln and lt brn, lt gray sl mottled granular; cherty AA

30' spl - Ls: various granular to cryptoxln; Sh: sl influx black carbon.

40' spl - Siltst: influx gray; Sh: med to dark gray, black; Ls: influx med to dark brn, gray-brn cryptoxln

50' spl - Ls: flood mottled tan, lt brn predom. granular, NVP, N.S.; several chips tan granular with spotty ppt stain, vsf sfo, no odor; 1-2 chips very coarse granular/foss. with vug and inter-particle por. with dark brn to black stain, nfo, no odor

CFS 4250' spls - >>>

Ls: fn granular, finely oolitic IP, common white chalky; trace stylolitic Dolomite with large vug. por., N.S.

Ls: flood lt gray, offwhite, tan vfxln dense, NVP; other offwhite subchalky to chalky

Ls: various dense AA; influx mottled med gray and brn, NVP, N.S.; still common offwhite subchalky to chalky

Sh: black carbon.

(4290' spl) - Ls: brn vf-cryptoxln with some vug. por. with dark brn to black spotty stain, ft odor, nfo

Ls: tan, offwhite mic-vfxln dense and lt gray vfxln silty

Ls: tan mic-vfxln dense with ppt and some vug. por.; flood white chalky, N.S.

Ls: tan, lt brn cryptoxln, NVP

Ls: various tan, offwhite mic-vfxln dense and tan, lt brn vf-cryptoxln, NVP; one chip as in 4290' spl with trace oil on break

Ls: tan, offwhite mic-vfxln subchalky to chalky; influx Chert: dove gray and mottled offwhite opq

Ls: tan, lt brn, lt gray vf-cryptoxln

Ls: predom. med brn, gray-brn cryptoxln; with dove gray and blue-gray chert;

Sh: black carbon.

**MudCo Mud Check at 4140'**  
 4:15 AM on 1-22-2015  
 wt vis wl pH chl  
 9.4 60 8.0 10.0 6,500  
 PV YP GelS lcm solids  
 18 22 15/44 6# 7.4%

7:00 AM at 4140' on 1-22-2015

DST No. 2 Lansing "I" Zone  
 Interval: 4220'-4250'  
 Times: 30-60-60-90  
 IFP: weak surface blow built to 2 inches  
 ISIP: no return blow  
 FFP: weak surface blow  
 FSIP: no return blow  
 Recovery: 124' WCM (10w, 90m)  
 FP: 20-58/60-100 SIP: 1143-1096  
 HP: 2095-1860 BHT: 113 deg. F

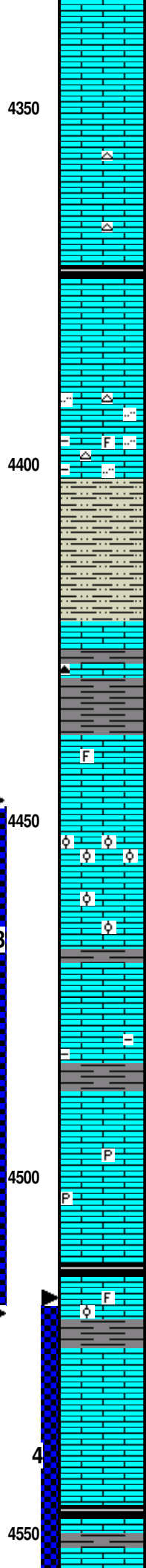
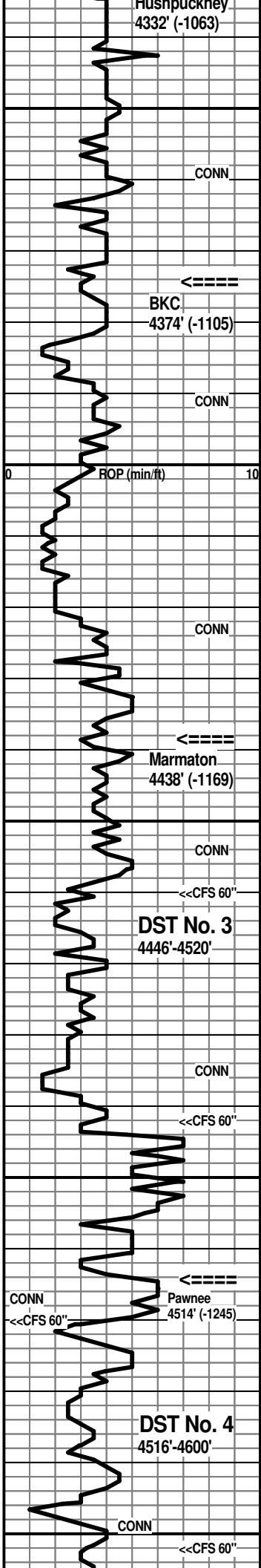
CFS 4250' 30" spl - Ls: flood tan, offwhite mic-fnxln with ppt por., becoming subchalky to chalky; some tan fn granular, finely oolitic with poor-NVP; lesser tan cryptoxln, N.S.; 60" spl - LS: flood tan, offwhite fn granular, finely oolitic with subchalky matrix, some poor-fair oomoldic and inter-particle por., N.S.

7:00 AM at 4250' on 1-23-2015

**MudCo Mud Check at 4250'**  
 10:30 AM on 1-23-2015  
 wt vis wl pH chl  
 9.1 52 5.6 11.0 5,200  
 PV YP GelS lcm solids  
 17 19 12/32 7# 5.1%

**Stark Shale 4279' (-1010)**

**Hushpuckney 4332' (-1063)**



Ls: good influx various brn cryptoxln to mottled granular, NVP

Ls: flood lt gray, tan, offwhite mic-vfxln dense, NVP

Ls: tan, lt brn, lt gray vf-cryptoxln and tan, offwhite mic-vfxln dense, subchalky IP; trace lt gray opq chert

Ls: mix AA with sl incr. lt to med brn cryptoxln, sl mottled IP; sl incr. lt gray opq chert

Sh: vsi influx black carbon. in 90' spl

Ls: various tan, lt brn, lt gray vf-cryptoxln, sl mottled and granular IP

Ls: influx offwhite subchalky to chalky with ppt por., N.S.

Ls: flood lt to med gray, lt brn fn granular, silty, poor-NVP, N.S.; occ offwhite and mottled lt gray opq chert

Ls: various lt to med gray, some lt brn, tan fn granular, silty to sl shaly IP, occ foss.; occ lt gray opq chert

Siltst: flood lt gray, offwhite, finely micac.; Sh: lt to med gray, occ black

Ls: lt to med brn, tan granular, NVP and tan, offwhite mic-vfxln dense; other med brn cryptoxln; occ dark brn opq chert; Sh: med gray

Ls: lt gray, tan mic-vfxln dense, NVP, N.S.; trace fn granular with poor inter-particle por. with brn dead stain, no odor, nfo; Sh med to dark gray

Sh: influx lt to med gray; Ls: good influx lt to med brn granular, sl foss., NVP; sl influx mottled yellow-brn granular, N.S. trace tan fn gran. with inter-particle por. with spotty oily stain; one chip cream gran. with black spotty stain, trace dark brn oil

Ls: good influx tan oolitic w/spar matrix; other tan, lt brn granular/oolitic with micxln matrix; med brn, gray-brn cryptoxln in 60" spl; Sh: med to dark gray

Ls: various tan, lt brn oolitic/granular; 1-2 chips lt brn granular with stain, sfo no odor; influx white chalky and tan, offwhite mic-vfxln dense; Sh: med to dark gray, black

Ls: flood med to dark brn, gray-brn cryptoxln

Ls: mix AA with sl influx dark gray cryptoxln to mottled granular, N.S.; Sh: common dark gray to black and silty lt gray

Sh: med to dark gray; Ls: mix lt gray, lt to med brn cryptoxln and tan, offwhite mic-vfxln dense

Ls: flood lt gray, lt brn sl mottled granular, NVP; med gray, lt to med brn more cryptoxln, sl pyritic IP, NVP, N.S.

Ls: med to dark gray, med to dark brn mottled granular, sl pyritic IP, NVP, N.S.; Sh: influx dark gray

Sh: influx black carbon. in CFS 30" spl

Ls: tan, lt brn vfxln, dense and sl mottled granular/foss.; occ tan oolitic with spar matrix

Sh: dark gray to black carbon.

Ls: brn and gray cryptoxln to sl granular, NVP

Ls: various lt gray, lt brn, tan vf-cryptoxln and offwhite, tan mic-vfxln dense, subchalky IP

Ls: flood mottled lt to med brn and gray granular, NVP; other gray, gray-brn, med brn cryptoxln and med gray dense, shaly; Sh: black carbon.

Ls: lt to med brn, gray mottled granular; lesser tan, lt gray

**BKC 4374' (-1105)**

7:00 AM at 4380' on 1-24-2015

**Marmaton 4438' (-1169)**

**MudCo Mud Check at 4467'**  
 1:20 PM on 1-24-2015  
 wt vis wl pH chl  
 9.1 59 5.6 11.5 5,000  
 PV YP GelS lcm solids  
 20 21 13/37 6# 5.0%

DST No. 3 Marmaton  
 Interval: 4446'-4520'  
 Times: 30-60-60-90  
 IFP: weak surface blow built to 1 1/2 inches  
 ISIP: no return blow  
 FFP: no blow  
 FSIP: no return blow  
 Recovery: 100' mud  
 FP: 48-71/71-89 SIP: 1256-1206  
 HP: 2305-1936 BHT: 115 deg. F

**Pawnee 4514' (-1245)**

7:00 AM on 1-25-2015

replaced valve seat

**MudCo Mud Check at 4550'**  
 1:00 PM on 1-25-2015  
 wt vis wl pH chl  
 9.1 61 6.8 11.0 6,000  
 PV YP GelS lcm solids

Ls: lt to med brn, gray mottled granular, lesser tan, lt gray mic-vfxln dense, NVP, N.S.

19 22 13/34 6# 5.2%

Sh: black carbon.

Ls: various brn and gray mottled granular, NVP, N.S.

### Fort Scott 4564' (-1295)

DST No. 4 Pawnee/Fort Scott  
Interval: 4516'-4600'  
Times: 30-60-30-60  
IFP: weak surface blow, died in 11 minutes  
ISIP: no return blow  
FFP: no blow  
FSIP: no return blow  
Recovery: 5' mud  
FP: 18-21/20-21 SIP: 105-59  
HP: 2385-1968 BHT: 115 deg. F

Ls: med to dark gray, med brn cryptoxln to granular, foss. IP (crinoid), NVP; other tan, lt brn granular IP; trace black and mottled brn chert, N.S.

Ls: very predom. lt to med gray, lt brn cryptoxln with lesser lt gray, offwhite mic-vfxln dense; trace offwhite opq chert

Sh: black carbon.

Ls: influx mottled med brn, med gray granular, NVP, N.S.

### Cherokee Shale 4592' (-1323)

7:00 AM at 4600' on 1-26-2015

Ls: various lt to med brn and gray mottled granular, sl oolitic IP; lesser lt to med gray, lt to med brn cryptoxln; Sh: dark gray to black carbon.

Ls: med brn, gray, gray-brn cryptoxln; interbedded Sh: dark gray to black carbon., some silty and micac. med gray

Ls: flood mottled lt brn/gray/tan with offwhite micxln matrix, granular, foss. IP, NVP, N.S.; Sh: black carbon., dark gray

### MudCo Mud Check at 4626'

11:00 AM on 1-26-2015  
wt vis wl pH chl  
9.2 55 8.0 10.5 7,000  
PV YP GeIS lcm solids  
17 21 12/31 6# 5.7%

Ls: flood lt to med gray, brn, tan vf-cryptoxln, NVP, N.S.; other offwhite, lt gray mic-vfxln, silty IP; Shales AA

Ls: various lt to med gray, lt to med brn predom. cryptoxln, NVP; interbedded dark gray to black carbon. shales; trace offwhite and black chert

### Johnson Zone 4646' (-1377)

Ls: mix med to dark gray, med to dark brn cryptoxln to mottled sl granular, NVP, N.S.; Shales AA

Ls: various gray, brn, tan cryptoxln to mottled granular, NVP, N.S.; Sh: dark gray to black and lt gray silty

Ls: various gray, brn, tan cryptoxln; lesser tan, offwhite mic-vfxln dense; scatt. brn opq chert

### Atoka 4682' (-1413)

Sh: influx black carbon. and dark gray

Ls: very predom. dark gray, dark brn cryptoxln; scatt. dark gray, dark brn, black opq chert

Ls: various gray and brn cryptoxln to sl granular, NVP, N.S.; occ dark gray, dark brn opq chert; Sh: some black carbon.

Ls: flood lt gray, offwhite vf-cryptoxln, NVP, N.S.; common dark dense AA

Ls: various brn and gray cryptoxln to mottled granular, NVP, N.S.; scatt. dark brn opq chert and mottled orange/brn chert

Ls: influx dark gray to black mottled cryptoxln, argill., very hard; occ chocolate brn smooth cryptoxln; scatt. gray opq chert

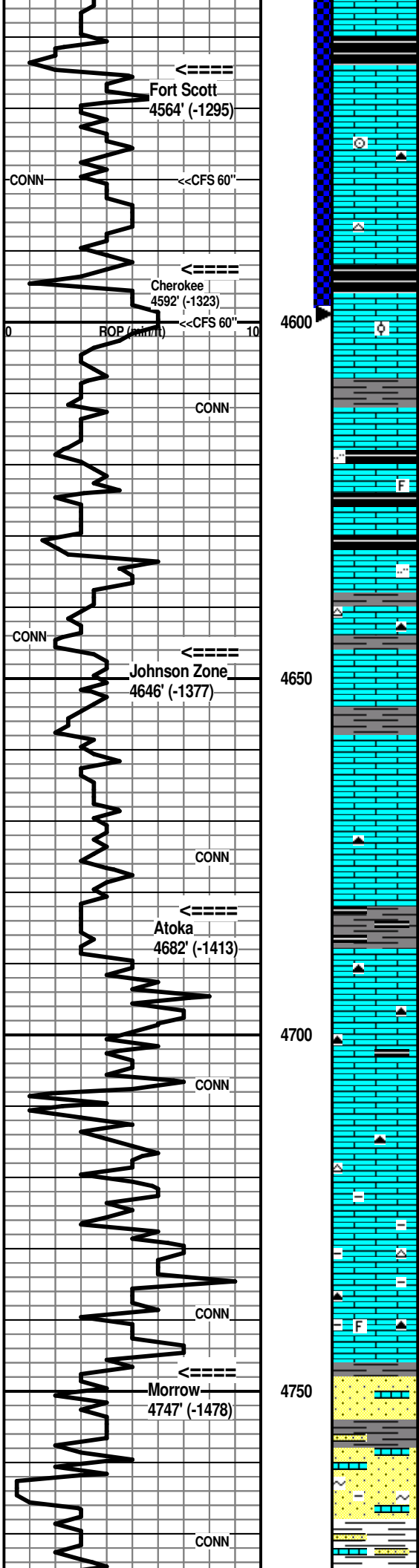
Ls: various dark gray to black and some dark brn granular to cryptoxln, some foss. and argill.; NVP, N.S.; scatt. black and dark gray opq chert

### Morrow 4747' (-1478)

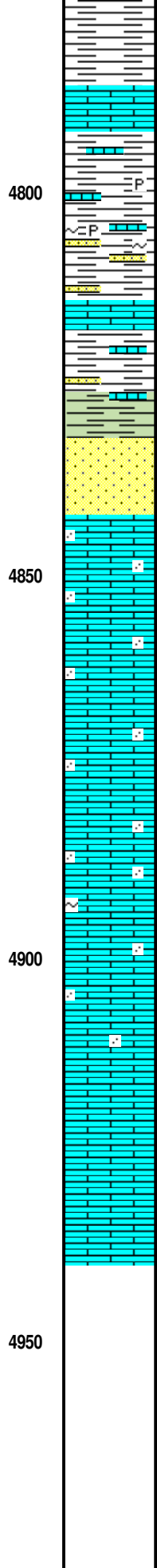
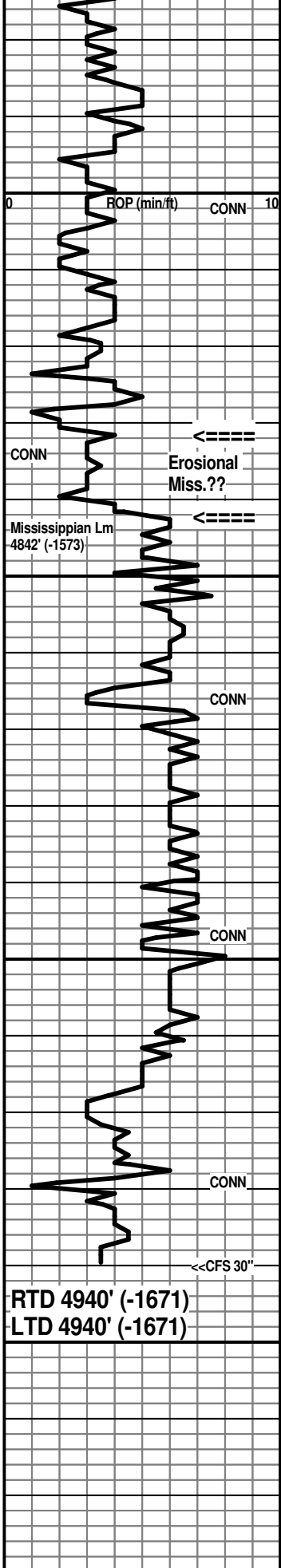
70' spl - Sst: good influx lt gray, offwhite vf-fg, well cmt'd with silica, quartzitic IP; Sh: dark gray to black; common dark tight Ls's AA

80' spl - Sh: good influx dark gray to black, subfissile and carbon. IP; Ls's and Sst's AA; some tan fg Sst with shale partings; some gray fg vsi glauc.

90' spl - Sh: dark gray to black with scatt. dark tight Ls's; Sst: incr. % lt gray, offwhite vf-fg shaly, sl glauc. IP; offwhite, tan fg gen. tight with silica to some calcite cement







4800' spl - much decr. Sst; Sh: strong influx lt to med gray, gray-green, black; very predom. Ls: various dark gray, brn granular to cryptoxln

10' spl - Sh: vc gray to black; scatt. dense Ls's AA

20' spl - Sh: vc gray to black, more lt gray, some pyritic gray and free pyrite; Ls: incr. % tan, cream mic-vfxln dense; Sst: scatt. vfg green, glauc., tight and lt gray vfg, shaly

30' spl - mix Ls: tan, brn vf-cryptoxln and granular; Sst: lt to med gray vf-fg shaly; Sh: predom. dark gray to black

40' spl - Sh: predom. dark gray to black; scatt. dense tight Ls's and scatt. Sst AA

50' spl - Sh: still very predom. Sh: dark gray to black with influx gray-green subwaxy; Sst: sl influx offwhite vfg, silica cement; some lt gray fg with inter-granular por. with calcite cement, N.S.

Ls: tan, lt brn fn granular, sandy IP, N.S.

Ls: mix AA

Ls: tan, cream fn granular and vf sandy

Ls: fn granular and finely sandy AA

Ls: influx offwhite micxln with imbedded med qtz grains

Ls: tan, cream mic-vfxln dense; lt brn med granular, glauc.; lt to med brn cryptoxln

Ls: tan, offwhite, lt gray fn granular and sandy

Ls: various tan, offwhite, lt gray fn granular and sandy with offwhite micxln matrix

Ls: mix AA with some lt brn granular with poor inter-particle por., N.S.

Ls: influx tan, lt to med brn fn to med granular, sl mottled; some more cryptoxln

Ls: flood med brn, gray, gray-brn granular to cryptoxln, NVP, N.S.

Because of the lack of any commercial shows of oil or gas, as evidenced from samples, DST's and open hole logs, the #1-27 R&B was declared a dry hole.

Respectfully submitted,

Wesley D. Hansen  
Petroleum Geologist  
Kansas License No. 418

**Mississippian Lm 4842' (-1573)**  
Samples very shaly through the 4920' sample from sloughing Morrow

**MudCo Mud Check at 4873'**  
4:30 AM on 1-27-2015  
wt vis wl pH chl  
9.4 61 8.0 10.0 7,200  
PV YP GeIS lcm solids  
18 22 16/47 6# 7.3%

7:00 AM at 4898' on 1-27-2015

RTD reached at 10:30 AM on 1-27-2015  
CFS/Short trip/CTCH  
TOFL

RTD 4940' (-1671)  
LTD 4940' (-1671)

<<CFS 30"



PO Box 93999  
Southlake, TX 76092

Voice: (817) 546-7282  
Fax: (817) 246-3361

# INVOICE

*acct Prod-MG*

Invoice Number: 148194  
Invoice Date: Jan 17, 2015  
Page: 1

Federal Tax I.D.#: 20-8651475

<b>Bill To:</b>
Murfin Drlg. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

Customer ID	Field Ticket #	Payment Terms	
Murfin	63821	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Jan 17, 2015	2/16/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	R & B #1-27		
200.00	CEMENT MATERIALS	Class A Common	17.90	3,580.00
564.00	CEMENT MATERIALS	Chloride	1.10	620.40
210.00	CEMENT SERVICE	Cubic Feet Charge	2.48	520.80
706.78	CEMENT SERVICE	Ton Mileage Charge	2.75	1,943.65
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
73.00	CEMENT SERVICE	Pump Truck Mileage	7.70	562.10
1.00	CEMENT SERVICE	Manifold Rental	275.00	275.00
73.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	321.20
1.00	CEMENT SUPERVISOR	Alan Ryan		
1.00	EQUIPMENT OPERATOR	Kevin Ryan		
1.00	EQUIPMENT OPERATOR	Darren Racette		

Subtotal	9,335.40
Sales Tax	342.33
Total Invoice Amount	9,677.73
Payment/Credit Applied	
<b>TOTAL</b>	<b>9,677.73</b>

ALL PRICES ARE NET, PAYABLE 30 DAYS FOLLOWING DATE OF INVOICE. 1 1/2% CHARGED THEREAFTER. IF ACCOUNT IS CURRENT, TAKE DISCOUNT OF

\$ 3,267.39 ✓ *OK*

ONLY IF PAID ON OR BEFORE Feb 16, 2015

*OK*

$$\frac{-3267.39}{6410.34}$$





*acct. prod-126*

# INVOICE

PO Box 93999  
Southlake, TX 76092

Invoice Number: 1484 05

Invoice Date: Jan 28, 2015

Voice: (817) 546-7282

Page: 1

Fax: (817) 246-3361

Federal Tax I.D.#: 20-8651475

<b>Bill To:</b>
Murfin Drlg. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

Customer ID	Field Ticket #	Payment Terms	
Murfin	64813	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Jan 28, 2015	2/27/15

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	R & B #1-27		
300.00	CEMENT MATERIALS	60/40/4% Gel Blend	18.92	5,676.00
75.00	CEMENT MATERIALS	Flo Seal	2.97	222.75
322.20	CEMENT SERVICE	Cubic Feet Charge	2.48	799.06
941.50	CEMENT SERVICE	Ton Mileage Charge	2.75	2,589.13
1.00	CEMENT SERVICE	Plug to Abandon	2,483.59	2,483.59
70.00	CEMENT SERVICE	Pump Truck Mileage	7.70	539.00
70.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	308.00
1.00	CEMENT SUPERVISOR	Paul Beaver		
1.00	EQUIPMENT OPERATOR	Brandon Wilkinson		
1.00	OPERATOR ASSISTANT	George Grant		

Subtotal	12,617.53
Sales Tax	1,028.33
Total Invoice Amount	13,645.86
Payment/Credit Applied	
<b>TOTAL</b>	<b>13,645.86</b>

ALL PRICES ARE NET, PAYABLE 30 DAYS FOLLOWING DATE OF INVOICE. 1 1/2% CHARGED THEREAFTER. IF ACCOUNT IS CURRENT, TAKE DISCOUNT OF

\$ 5,677.88

ONLY IF PAID ON OR BEFORE

Feb 27, 2015

*OK In*  

$$\begin{array}{r} -5677.88 \\ \hline 7967.98 \end{array}$$

# ALLIED OIL & GAS SERVICES, LLC 064813

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Oakley, KS

DATE <u>1-28-15</u>	SEC. <u>27</u>	TWP. <u>17</u>	RANGE <u>36</u>	CALLED OUT	ON LOCATION <u>2:00 a.m.</u>	JOB START <u>6:30 a.m.</u>	JOB FINISH <u>4:30 a.m.</u>
LEASE <u>R+B</u>	WELL# <u>1-27</u>	LOCATION <u>Manorhol (Rd 20) SW, 302,</u>		COUNTY <u>Wichita</u>	STATE <u>KS</u>		
OLD OR <u>(NEW)</u> (Circle one)		LOCATION <u>1/4 S. Winto</u>					

CONTRACTOR Murfin 4

TYPE OF JOB PTA

HOLE SIZE 7 7/8 T.D. 4940'

CASING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE 4 1/2 DEPTH 2460'

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. \_\_\_\_\_

PERFS. \_\_\_\_\_

DISPLACEMENT 5 bbl H<sub>2</sub>O 22 bbl mud

OWNER Same

CEMENT

AMOUNT ORDERED 300 sks Lite (60/40  
4 1/2 gel) 1/4 # Flo-seal

EQUIPMENT

PUMP TRUCK CEMENTER Paul Beaver

# 431 HELPER Brandon Wilkinson

BULK TRUCK

# 818/287 DRIVER George Grant

BULK TRUCK

# \_\_\_\_\_ DRIVER \_\_\_\_\_

COMMON	_____	_____
POZMIX	_____	_____
GEL	_____	_____
CHLORIDE	_____	_____
ASC	_____	_____
Lite (60/40) 300 sks	@ <u>18.92</u>	<u>5676.00</u>
Flo-seal 75#	@ <u>2.97</u>	<u>222.75</u>
MATERIAL TOTAL	_____	<u>5898.75</u>
(2634.43/453)	_____	_____
HANDLING <u>322.26 \$/hr</u>	@ <u>2.48</u>	<u>799.06</u>
MILEAGE <u>13.45 hours x 70 mph</u>	@ <u>2.75</u>	<u>2589.13</u>
TOTAL	_____	_____

**REMARKS:**

Mix 50 sks @ 2460' Displace w/ mud  
Mix 80 sks @ 1450' Displace w/ water  
Mix 50 sks @ 700' Displace w/ water  
Mix 50 sks @ 300'  
Mix 20 sks @ 160'  
Mix 30 sks in R.H  
Mix 20 sks in m.H

Thank You!  
Paul + Crew

CHARGE TO: Murfin Drlg

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB 2460'

PUMP TRUCK CHARGE 2483.57

EXTRA FOOTAGE \_\_\_\_\_

MILEAGE 111 hr 70 @ 5.70 539.00

MANIFOLD \_\_\_\_\_

MLV 70 @ 4.90 308.00

(3023.45/453) TOTAL 6118.78

**PLUG & FLOAT EQUIPMENT**

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
TOTAL	_____	_____

To: Allied Oil & Gas Services, LLC.  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Kelly Wilson

SIGNATURE Kelly Wilson

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES 12617.53

DISCOUNT 5677.88/453 IF PAID IN 30 DAYS

6939.64 Net.

		MDCI R & B #1-27 1300' FNL 1130' FEL Sec. 27-T17S-R36W 3269' KB					MDCI Gerstberger #1-29 1800' FNL 660' FEL Sec. 29-T17S-R36W 3298' KB		
Formation	Sample Top	Datum	Ref	Log tops	Datum	Ref	Log Top	Datum	
Anhydrite				2362	+907	-41	2350	+948	
B/Anhydrite	2425	+844	-17	2452	+817	-44	2437	+861	
Topeka	3722	-453	-65	3716	-447	-59	3686	-388	
Heebner	3957	-688	-67	3959	-690	-69	3919	-621	
Lansing	4008	-739	-67	4006	-737	-65	3970	-672	
Stark	4279	-1010	-64	4279	-1010	-64	4244	-946	
Pawnee	4523	-1254	-58	4519	-1250	-54	4494	-1196	
Ft. Scott	4564	-1295	-53	4566	-1297	-55	4540	-1242	
Johnson	4646	-1377	-53	4641	-1372	-48	4622	-1324	
Morrow	4747	-1478	-52	4737	-1468	-42	4724	-1426	
Mississippian	4842	-1573	-72	4826	-1557	-56	4799	-1501	
RTD	4940						4915		
LTD				4940			4917		